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ABSTRACT

This document consists of more than 30 previously published journal articles and reports that focus on aspects of teacher certification. Section one of this volume presents articles on the specific issues and problems underlying the current condition of teacher quality that affect decision making policy. The imminent shortage of qualified teachers is discussed. Section two reviews state efforts to attract and retain qualified teachers through incentive programs and examines recruitment efforts and practices of teacher education programs. The lack of standardized admission criteria across states is discussed. The third section provides articles highlighting reasons for increasing state intervention in the teacher education process and includes a discussion on the need for cooperation among educational policy makers and leaders. Results of two recent surveys investigating the current condition of teacher education and certification are summarized. In section four, two recent studies comparing the relationship between certification requirements and job performance are discussed, as well as a report on research studies focusing on clinical experience in teacher education programs. An examination of present state certification and teacher education programs is offered in section five. The sixth section addresses the topic of testing as a prerequisite to certification. The final section deals with various legal aspects concerning teacher education and certification. (JD)

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The Center on Evaluation, Development and Research (CEDR) dedicates the Hot Topics series to administrators and board members who must make responsible, data-based decisions, to teachers and paraprofessionals who must interpret a constantly changing curriculum, and to students and parents who must deal with the current problems and issues in education.

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One of CEDR's most important missions is to help educators identify ways to solve problems by seeing the successful solutions of others. We sincerely hope that this volume will fulfill that purpose.

The Hot Topics series is prepared
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INTRODUCTION

Public dissatisfaction with the declining quality of the teaching workforce has forced educators and educational policymakers to reevaluate present standards for teacher certification and preparation programs. Since 1970 the academic ability of students entering teaching (as measured by SAT scores) has declined sharply when compared to those scores of students entering other professions.[1,2] Moreover, few students seeking admission into teacher education programs are rejected.[3]

Concerns about teacher quality are echoed in several recent national commission reports that address the quality of education in the public schools and urge educators and legislators to reform the system. There is no question that states are responding to these concerns. Over the last five years state efforts to improve teacher certification requirements have increased significantly. At present, 18 states require testing for certification and 11 other states are considering similar requirements for certification.[4] Several states have implemented testing procedures for admission into teacher preparation programs and some states have increased both entrance and exit standards. In addition, a few states have authorized or mandated a one-year supervised internship or a fifth year of study prior to initial certification. And at least one state — Florida — has legislated that if 80 percent of the students enrolled in a teacher education program don't successfully complete the states' certification examination the program will "lose its approved program status."[5]

As states intervene in the reorganization of teacher certification requirements, they are beginning to assume a role that historically has been left to professional educators. In turn, many educators are opposed to state intervention and argue that they best know their own profession. Clearly, the call for cooperation among educators, educational leaders, and state policymakers has never been greater.

This volume, number nine in the Center on Evaluation, Development and Research (CEDR) HOT TOPICS series, provides information concerning the current status of teacher certification and preparation, issues and problems faced in reform, a review of educational research in this area, and examples of current practices. We hope that this collection of articles will serve as a reference for discussion and assist educators and educational policymakers in clarifying important issues as efforts to improve teacher certification standards continue.

Section one, *Problems*, presents a selection of articles highlighting the specific issues and problems that underlie the current condition of teacher quality and affect decision-making policy. "Beyond the Commission Reports: The Coming Crisis in Teaching," analyzes recent data indicating that a crucial shortage of qualified teachers is imminent. Academically-talented students are leaving teaching as other career opportunities offering increasing financial rewards, advancement, and better working conditions. Teaching is no longer an attractive career that attracts or retains qualified personnel. In addition, the flow of talented women and minorities away from teaching and changing demographic trends have compounded the problem of supply and demand.

Recruitment and Admissions, section two, reviews state efforts to attract and retain qualified teachers through incentive programs and examines recruitment efforts and practices of teacher education programs. A chapter from Feistritzer's report, *The Making of a Teacher: A Report on Teacher Certification and Education* indicates that admission standards for teacher education programs are not standardized across states and many vary significantly — even within the same state. Schlechty and Vance's article focuses on admission criteria, institutional competition for a declining enrollment, and the effects on the quality and quantity of the teachers produced.

Section three, *Certification and Education: An Overview*, provides two articles that highlight reasons for increasing state intervention in the teacher education process and discusses the need for cooperation among educational policy makers and educational leaders. A third, by Feistritzer, summarizes the results of two recent surveys investigating the current condition of teacher education and certification.

The fourth section, *Research*, reveals in part why efforts to improve teacher training programs by professional educators are often hampered by lack of professional concensus. Educators disagree about what constitutes adequate teaching performance. Furthermore, educational research is at best inconclusive with regard to the value of teacher training programs. Two of the most recent studies comparing the relationship between certification requirements and on-the-job performance are included in this section, as well as research studies focusing on the clinical experience in teacher preparation programs.

Section five, *Current Practices*, contains a selection of articles examining present state certification and teacher education programs. Topics include an analysis of initial certification requirements by state, two state proposals recommending changes in certification, a summary of recent legislation in Oklahoma, and state action concerning alternative routes for teacher certification. Also included are two articles that outline the implementation of an extended or fifth-year teacher education program at the universities of Florida and Kansas.

The sixth section, *Testing*, addresses the move by many states to institute testing as a prerequisite to certification. Articles include a state by state analysis of current testing practices, and a review of issues related to the development and implementation of a state testing program. Other articles in this section discuss the opposing views of educators regarding the testing movement in education, and its impact on the declining number of minorities entering teaching.

The last section, *Legal Issues*, highlights various legal aspects concerning teacher education and certification. The opening article by Delbert Clear demonstrates the increasing possibility of educational malpractice occuring in teacher education. Other articles address state requirements for initial certification, potential and real challenges to certification laws, and legal problems faced in the development and implementation of testing procedures used for screening and entry into teaching.

—Gayle C. Hall, Editor

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1. Linda Darling-Hammond, *Beyond the Commission Reports: The Coming Crisis in Teaching*, Rand Report, R-3177-RC, July 1984, p. 2.
2. Timothy Weaver, "Solving the Problem in Education, Part I," *Phi Delta Kappan*, October 1984, p. 110.
3. Emily C. Feistritzer, *The Making of a Teacher: A Report on Teacher Education and Certification* (Washington, D.C.: The National Center for Educational Information, 1984), p. 14.
4. Emily C. Feistritzer, *The Condition of Teaching: A State by State Analysis* (Princeton, New Jersey: The Carnegie Foundation for the Advancement of Teaching, 1983), p. 94.
5. Ibid, p. 95.

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27	**Responding to low and failing scores by 50% of first year teachers in the Dallas public schools on basic skills tests, Lyons lambastes educational leadership in teacher education programs and in the NEA.**	Lyons, Gene, "Why Teachers Can't Teach," *Texas Monthly*, vol. 7, no. 9, pp. 123-128, 208-220, September 1979.
37	**Reviews research on the declining quality of teacher candidates in light of increasing job opportunities and the effects of institutional responses to concomitant adjustments in career choices.**	Weaver, Timothy, "Solving the Problem of Teacher Quality, Part I," *Phi Delta Kappan*, vol. 66, no. 2, pp. 108-115, October 1984.
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301	**Relates legal concerns, in layman terms, to issues and problems confronted in developing performance-based assessment instruments. Specifically addresses the development of Georgia's minimum competency testing for initial professional certification.**	Ellett, Chad, "Assessing Minimum Competencies of Beginning Teachers: Instrumentation, Measurement Issues, Legal Concerns," Paper presented at the Annual Meeting of the National Council on Measurement in Education, Boston, MA, pp. 13-26, Appendix D, April 8, 1980.

1

Problems

R-3177-RC

Beyond the Commission Reports

The Coming Crisis in Teaching

Linda Darling-Hammond

July 1984

Rand
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PREFACE

The text of this report was first compiled and presented as a briefing to The Rand Corporation Board of Trustees on April 13, 1984. The research on which it is based was accumulated over the course of several Rand studies of the teaching profession, supported in part by the National Institute of Education and The Ford Foundation. Because of widespread interest in the topic, the briefing is being published as a report so that it can be made available to education policymakers, practitioners, and researchers who are concerned about the status of, and the prospects for, the teaching profession.

SUMMARY

This report treats the current status of the teaching profession at a time when renewed efforts to improve the quality of American education are occurring at the federal, state, and local levels. The report demonstrates that dramatic changes in our nation's teaching force will soon lead to serious shortages of qualified teachers unless policies that restructure the teaching profession are pursued. Until teaching becomes a more attractive career alternative, the problems of attracting and retaining talented teachers will undermine the success of other reforms intended to upgrade educational programs and curricula.

The report analyzes recent data indicating changes in the recruitment and retention patterns of the American teaching force, in the quality of teachers, and in the attractiveness of teaching as a profession. The current highly educated and experienced teaching force is dwindling as older teachers retire in increasing numbers and many younger teachers leave for other occupations. Recent evidence suggests that new recruits to teaching are less academically qualified than those who are leaving, and the number of new entrants is insufficient to meet the coming demand for teachers. The most academically able recruits to teaching leave the profession within a very short time. Shortages of qualified teachers in subject areas such as mathematics and science are expected to grow over the next few years into a more generalized teacher shortage as enrollments increase and the supply of prospective teachers continues to shrink.

Several factors contribute to this problem. Demographic trends are provoking supply and demand imbalances for teachers. More significantly, though, academically talented women and minorities, who were once restricted to teaching as a professional option, are now choosing other occupations that promise greater financial rewards, more opportunities for advancement, and better working conditions. Teachers' salaries fall well below those of most other occupations that require a college degree, and average teachers' salaries have been declining for the past decade. The non-pecuniary rewards of teaching have also been dwindling, as teachers are increasingly viewed as bureaucratic functionaries rather than as practicing professionals. Lack of input into professional decisionmaking, overly restrictive bureaucratic controls, and inadequate administrative supports for teaching contribute to teacher dissatisfaction and attrition, particularly among the most highly qualified members of the teaching force.

Unless major changes are made in the structure of the teaching profession, so that teaching becomes an attractive career alternative for talented individuals, we will in a very few years face widespread shortages of qualified teachers. We will be forced to hire the least academically able students to fill these vacancies, and they will become the tenured teaching force for the next two generations of American school children.

Higher salaries for teachers are only part of the solution to this problem. As in other occupations, working conditions that affect teachers' abilities to perform their jobs effectively are a partial substitute for wages. In teaching, a particularly important aspect of those working conditions is the degree of professionalism allowed in the work structure. Professionalizing teaching will require a new career structure in which improved preparation and professionally enforced standards of practice are combined with increased responsibility for technical decisionmaking by those who successfully demonstrate their competence. Upgrading teacher compensation and creating more professional working conditions are part of a structural solution, one that addresses the interrelated causes of the teacher supply and quality problems, rather than merely their symptoms.

BEYOND THE COMMISSION REPORTS: THE COMING CRISIS IN TEACHING

WANTED

> College graduate with academic major (master's degree preferred). Excellent communication and leadership skills required. Challenging opportunity to serve 150 clients daily, developing up to five different products each day to meet their needs. This diversified job also allows employee to exercise typing, clerical, law enforcement, and social work skills between assignments and after hours. Adaptability helpful, since suppliers cannot always deliver goods and support services on time. Typical work week 47 hours. Special nature of work precludes fringe benefits such as lunch and coffee breaks, but work has many intrinsic rewards. Starting salary $12,769, with a guarantee of $24,000 after only 14 years.

The conditions described in this want ad accurately characterize the typical secondary school teaching assignment in the United States today. Who would take a job like this? The answer to that question is the topic of this report.

The Emerging Crisis in Teaching

Over the past eighteen months, a number of major reports have been issued on the quality of American education. Reports from the National Commission on Excellence in Education, the Education Commission of the States, the National Science Board, the Twentieth Century Fund, and other institutions have called for higher educational standards, increased course requirements, and other major reforms designed to improve the quality of instruction. The message of these reports is important. However, the crisis now emerging in the teaching profession could preclude the attainment of the other reforms being urged. If public schools are to attract enough highly qualified people to become teachers, working conditions and compensation must change in significant ways.

The nation's teaching force is changing dramatically. The current highly educated and experienced staff is dwindling as older teachers retire and many younger teachers leave for other occupations. Recent evidence suggests that new recruits to teaching are less academically qualified than those who are leaving; moreover, the number of new entrants is insufficient to meet the coming demand.

Chart 1 shows the decline in academic ability of students planning to become teachers, as measured by scores from Scholastic Aptitude Tests (SAT). The scores of students planning to major in education have traditionally been lower than those of other students. In addition, over the past decade, the scores of potential education majors have declined more steeply than those of other students.[1] Most teaching recruits are now drawn from the bottom group of SAT scorers; most of the few top scorers who are recruited to education leave the profession quickly.[2]

Chart 2 shows the pattern of attrition from teaching, using data for white female entrants to the teaching profession in 1973 in North Carolina. Here the measure of ability is the National Teachers Examination (NTE), which is given to prospective teachers in many states. The attrition rates of the North Carolina teachers tested in 1973 were

Academic Ability of Incoming Teachers Is Declining

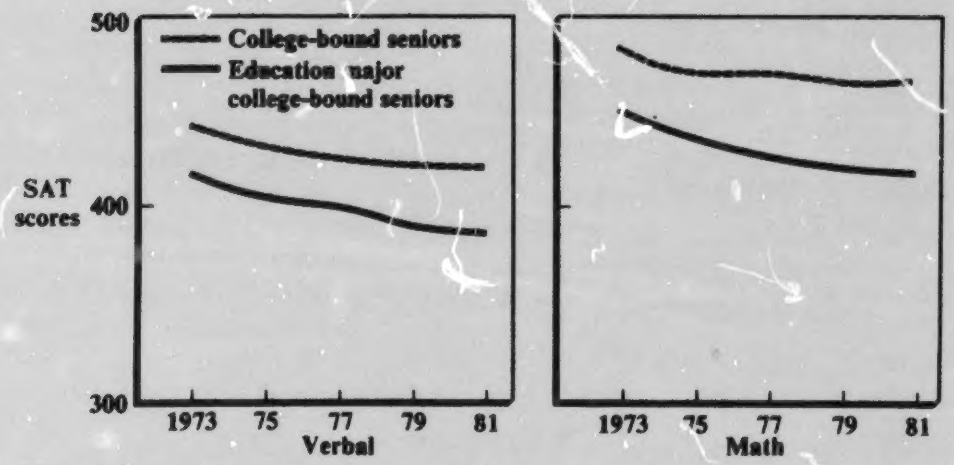

Chart 1

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[1] National Center for Education Statistics, *The Condition of Education, 1982 Edition*, U.S. Department of Education, 1982, p.111.

[2] For example, 28 percent of the lowest quintile of SAT scorers from the high-school class of 1972 went into teaching, and more than half of them planned to stay in the profession. By contrast, only 8 percent of the highest quintile went into teaching, and only 25 percent of them planned to stay. Victor S. Vance and Phillip C. Schlechty, *The Structure of the Teaching Occupation and the Characteristics of Teachers: A Sociological Interpretation*, Paper presented at the National Institute of Education Conference at Airleigh House, Virginia, February 25–27, 1982.

Attrition Rates of Teachers

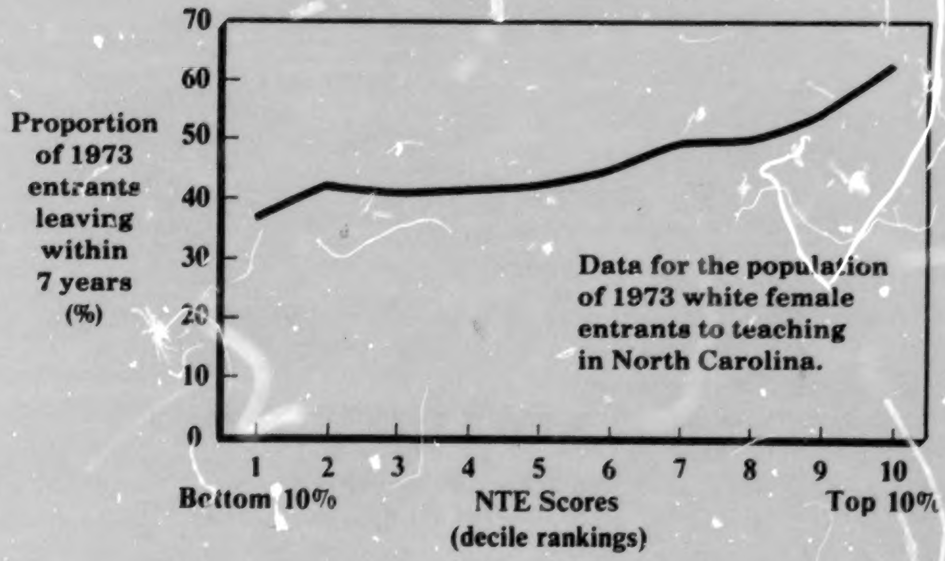

Chart 2

directly related to NTE scores: Many more top scorers than bottom scorers left teaching within 7 years. By 1980, almost two-thirds of the top decile had left, whereas only about one-third of the bottom decile had left.[3]

Although these measures of academic ability do not fully predict teaching performance, it is clear that the teaching profession is attracting and retaining fewer academically able young people than it has in the past.

For most of the past decade, there has been a widely recognized surplus of teachers, so policymakers have not been aware of recent changes in recruitment patterns. In the past few years, though, shortages have been occurring in certain teaching areas, particularly in secondary school specialties. A recent survey of teacher placement officers[4] identified nationwide shortages in the following areas:

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[3] Phillip C. Schlechty and Victor S. Vance, "Do Academically Able Teachers Leave Education? The North Carolina Case," *Phi Delta Kappan*, Vol. 63, 1981, pp. 106–112.

[4] Association for School, College and University Staffing, *Teacher Supply/Demand, 1984*, Madison, Wisconsin, 1984.

- Mathematics
- Physics
- Computer programming
- Chemistry
- Data processing
- Bilingual education
- Special education
- Earth science
- Biology
- English

The shortages in mathematics and the sciences are particularly severe, but other teaching areas that formerly showed surpluses are also joining the list. The shortages have immediate effects on educational quality, because they mean that courses must often be taught by teachers who are not qualified in the subject areas.

Charts 3 and 4 show the dimensions of this qualifications problem. In 1981, the most recent year for which data are available, fewer than half of the newly hired teachers in mathematics and science were certified or eligible for certification in the subjects they were assigned to teach. Fewer than two-thirds of the newly hired teachers in English, social studies, and other secondary subjects were qualified by this criterion.[5]

The shortage of mathematics and science teachers exemplifies the magnitude of the long-range teacher supply problem. According to one set of estimates, of a total teaching force of about 200,000 mathematics and science teachers, 9 percent left in 1982–83, 30 percent are not fully qualified for the subjects they are teaching, and over 40 percent will retire within the next decade.[6] The National Science Teachers Association estimates that 300,000 new mathematics and science teachers will be needed by 1995—more than the total number of mathematics and science teachers currently teaching.[7]

Furthermore, there is no indication that the teaching profession is attracting new mathematics and science teachers at a rate that might potentially meet the increased demand. In fact, as Chart 5 shows, exactly the opposite is true. In 1981, the nation's colleges granted fewer than 1400 bachelor's degrees in the fields of mathematics and

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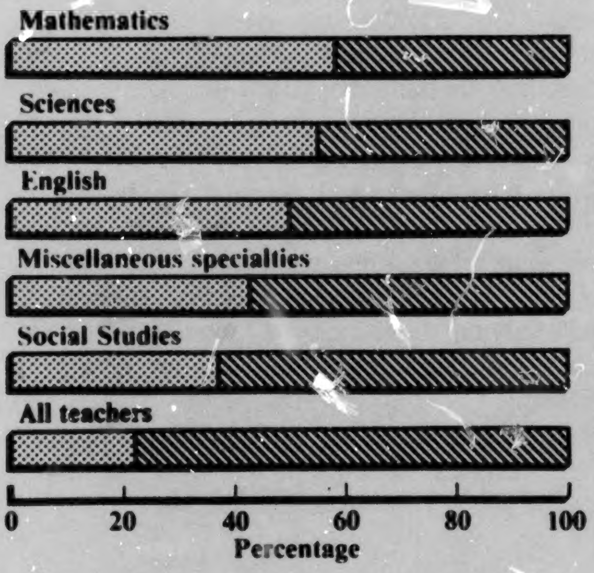
[5] National Center for Education Statistics, *The Condition of Education, 1983 Edition*, U.S. Department of Education, 1983, p.206.

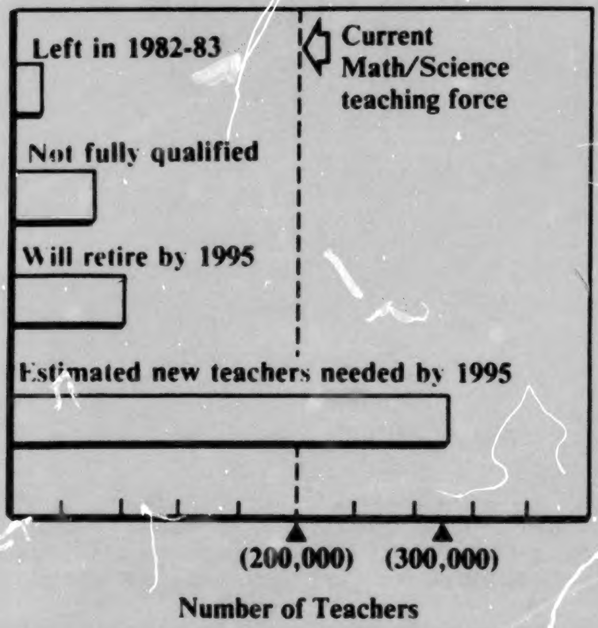
[6] National Science Teachers Association Survey, December 1982, reported in Hope Aldrich, "Teacher Shortage: Likely to Get Worse Before It Gets Better," *Education Week*, July 27, 1983.

[7] Ibid.



Qualifications of New Teachers for the Field They Are Currently Teaching (1981)

Chart 3



Status of the Mathematics and Science Teaching Force

Chart 4

science education combined.[8] This number represents less than one mathematics or science teacher for every ten school districts in the United States. In the following school year, 1982–83, about 18,000 mathematics and science teachers left their teaching positions. (About 37 percent of these teachers left for non-teaching employment; 9 percent retired; and the remainder took other teaching-related jobs.)[9]

All indications are that the shortages of specialized teachers will expand to a more general shortage of qualified teachers within the next few years. Given current trends in school-age population, entrants to the teaching profession, and attrition, the supply of new teacher graduates may satisfy only about 80 percent of the demand for additional teachers by 1988[10] (see Chart 6).

Although teacher shortages have occurred before, most recently in the 1960s, there are new reasons for the current shortages, and new responses will be required. Demographic trends, expanded

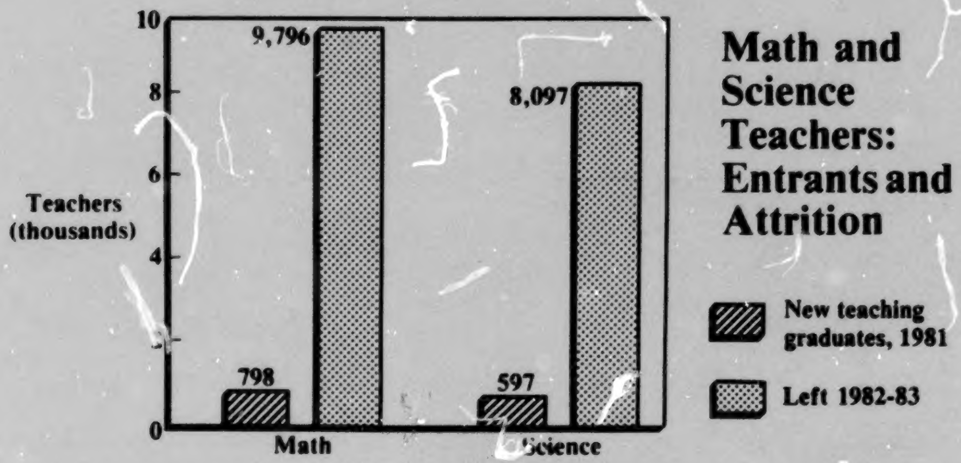


Chart 5

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[8] NCES, *The Condition of Education, 1983*, p. 188.

[9] N.S.T.A. Survey, op. cit.

[10] Estimates derived from Table 2.9, National Education Association, *Teacher Supply and Demand in Public Schools*, 1973, 1976, 1977, 1978; and National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, U.S. Department of Education, 1980. More recent projections by NCES place low to intermediate supply estimates for 1990 at 55 to 110 percent of demand; NEA projections estimate that the supply of new graduates will fill 70 percent of the demand in 1990. NCES, *Projections of Education Statistics to 1990–91*, 1982, p.86; NEA, *Teacher Supply and Demand in Public Schools, 1981–82*, 1983, p.22.

A General Shortage of Teachers Is Imminent

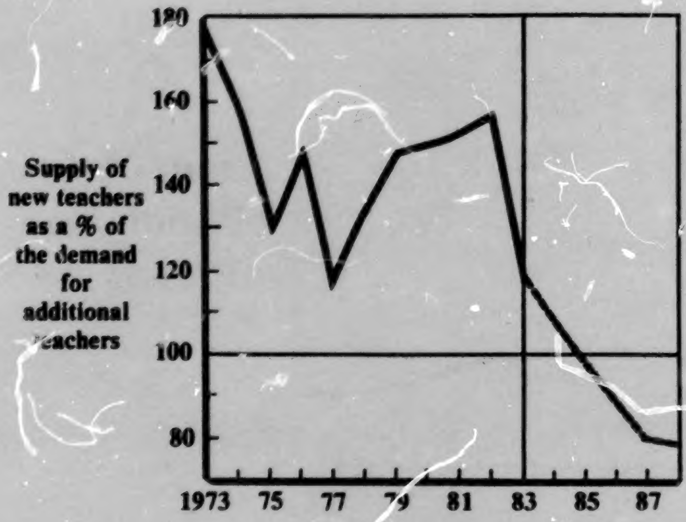

Chart 6

opportunities for minorities and women, and the low salaries and lack of prestige associated with teaching—each a powerful force in itself—combine to make solutions to the shortage problem more difficult to design and implement.

Demographic trends have provoked supply and demand imbalances in teaching before, and they are doing so once again. As Chart 7 shows, the sources of supply and demand are moving in opposite directions for the short-term future. After a decade of declining enrollments in elementary and secondary schools, a baby boomlet that began in the early 1980s will begin to cause enrollment increases starting in 1985. At the same time, the college-age population from which most potential teachers will be drawn will continue to decline through the remainder of the decade and slightly beyond.

Meanwhile, the number and proportion of bachelor's degrees conferred in education have declined fairly steeply over the past decade. In times past, public education was a major employer of college graduates. In 1971, for example, more than 20 percent of the bachelor's degrees conferred were in education. By 1981, the proportion had dipped to less than 12 percent.[11] This decline may have been partly a response to the teacher surpluses that characterized the 1970s;

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[11] NCES, *The Condition of Education, 1983*, p. 184.

School-Age Population Trends

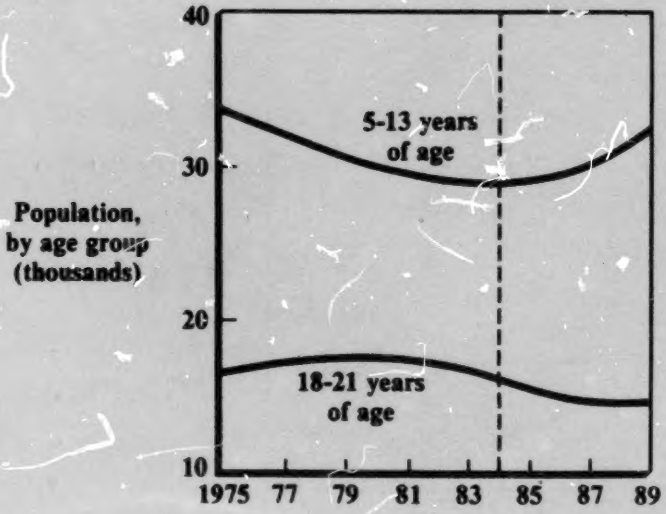

Chart 7

however, the data suggest that other market forces are at work as well. Alternative occupations are available to a wider spectrum of college graduates, and many are choosing these more lucrative fields, even though the demand for teachers is growing. There is no sign that supply is responding to demand even in fields where there are widely publicized shortages. The number of education degrees conferred in mathematics and science, for example, continues to decline.[12]

One of the labor market factors having the greatest effect on the teaching profession is the growth in opportunities available to women and minorities. Women have traditionally comprised the large majority of the teaching force, and they still do so. However, academically talented women, in particular, are increasingly pursuing other occupations. Between 1970 and 1980, the proportion of women receiving bachelor's degrees in education decreased by half, from 36 percent to 18 percent. By 1981, the proportion had dropped to 17 percent.[13] During that decade, women's professional options expanded enormously, as Chart 8 shows. Women's occupational choices shifted from education, English, and the social sciences to business and commerce and the health professions. The proportion of degrees granted to women also

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[12] Ibid., p. 188.

[13] Ibid., p. 184.

Bachelor's and First Professional Degrees for Women — 1970-1980

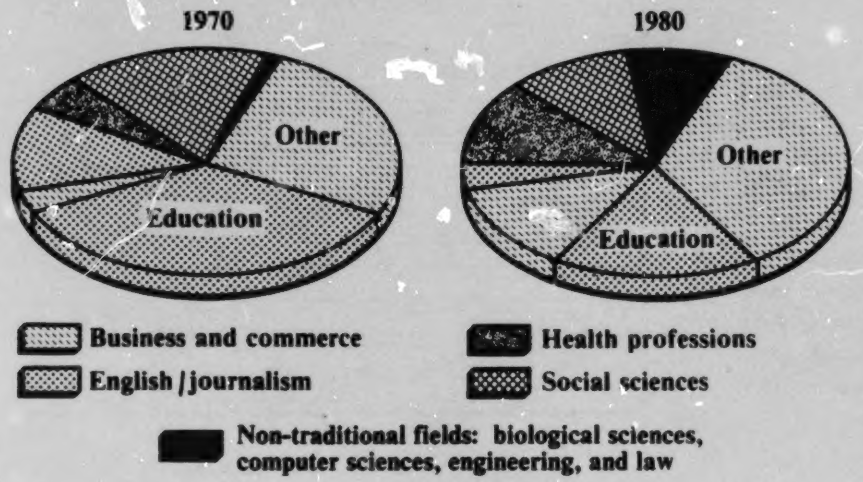

Chart 8

increased tenfold in the biological sciences, computer sciences, engineering, and law.[14]

Why Has Teaching Lost its Appeal?

Can academically able students be reattracted to the teaching profession in a labor market that offers other, more attractive choices?

The current salary structure of the teaching profession will surely not provide strong motivation. Beginning salaries for teachers are lower than those in virtually any other field requiring a bachelor's degree (Chart 9). Even when teaching salaries are adjusted to reflect a twelve-month salary equivalent, they fall short of the next lowest category (liberal arts graduates).[15] Teachers' salaries also reach a ceiling much sooner and at a much lower level than do the salaries of other college-educated workers.

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[14] Bureau of the Census, *Statistical Abstract of the United States: 1984*, 104th ed., U.S. Department of Commerce, 1983, p.166; Bureau of the Census, *Statistical Abstract of the United States: 1973*, 94th ed., U.S. Department of Commerce, 1973, p. 133.

[15] Data are for the 1981-82 school year. National Education Association, *Prices, Budgets, Salaries, and Income: 1983*, 1983, p. 22.

Beginning Salaries of Bachelor's Degree Graduates

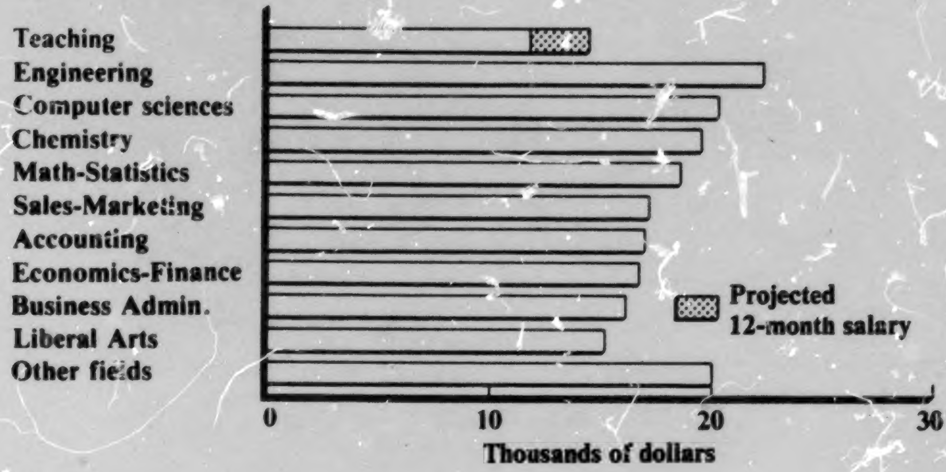

Chart 9

The situation is made worse by the fact that teachers' salaries have lost ground relative to other occupational salaries over the past ten years. Although there is a common perception that teachers' salaries have improved as a result of collective bargaining, average salaries for teachers actually declined by nearly 15 percent in real dollar terms between 1971 and 1981,[16] even though the average experience level of the teaching force increased over that period, as did the average education level. The majority of teachers now have at least a master's degree and about 13 years of experience.[17]

The data paint a rather gloomy picture of the recruitment potential of the teaching profession. But many studies suggest that people are attracted to teaching for altruistic reasons—because they love to work with children and want to make a contribution to society. Indeed, the primary rewards of teaching are the intrinsic, non-pecuniary satisfactions derived from imparting knowledge and seeing young people grow and learn.[18] But even these satisfactions have been declining as the nature of teaching work has changed. Teachers express increasing dissatisfaction with the conditions under which they work and the policies that define their classroom activities.

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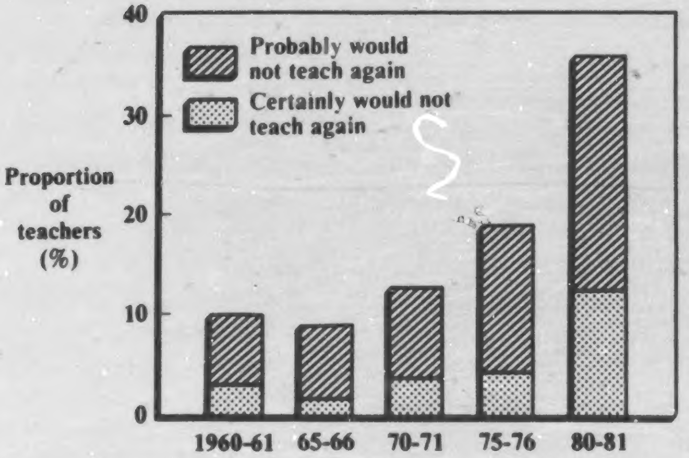
[16] NCES, *The Condition of Education: 1983*, pp. 102–103.

[17] National Education Association, *Nationwide Teacher Opinion Poll, 1983*, 1983. p. 6.

For several decades, the National Education Association has polled several thousand teachers annually about their teaching conditions and views. One question asked in each poll is, If you could go back and start all over again, would you still become a teacher? Chart 10 shows the dramatic change in the response to that question over twenty years. Between 1971 and 1981, the proportion of respondents saying they would not teach again more than tripled, rising from about 10 percent to nearly 40 percent. Less than half of the present teaching force say they plan to continue teaching until retirement.[19]

It is easy to summarize the factors that contribute to teacher dissatisfaction. Teachers feel that they lack support—physical support in terms of adequate facilities and materials; support services such as clerical help for typing, duplicating, and paperwork chores; and



Percent of Teachers Who Would Not Teach Again — Teacher Dissatisfaction Has Increased. . .

Chart 10

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[18] See, for example, Daniel C. Lortie, *Schoolteacher: A Sociological Study*, Chicago: University of Chicago Press, 1975; Phillip W. Jackson, *Life in Classrooms*, New York: Holt, Rinehart and Winston, 1968; Linda Darling-Hammond and Arthur E. Wise, *A Conceptual Framework for Examining Teachers' Views of Teaching and Educational Policies*, The Rand Corporation, N-1668-FF, February 1981.

[19] National Education Association, *Status of the American Public School Teacher, 1980–81*, 1982, pp. 73–76.

administrative support that would provide a school environment in which their work is valued and supported rather than obstructed by interruptions and a proliferation of non-teaching tasks. They see their ability to teach hampered by large class sizes and non-teaching duties. And they feel that they are not treated as professionals. They have limited input to decisions that critically affect their work environment, and they see few opportunities for professional growth.[20]

Let us translate these categories into more concrete terms. Imagine that you are a high-school English teacher. You have at least a master's degree (as do most teachers today) and you would like to impart to your students the joys of great literature and the skills of effective communication. You have at your disposal a set of 100 textbooks for your 140 students. You cannot order additional books so you make copies of some plays and short stories, at your own expense, and you jockey with the 50 other teachers in your school for access to one of the two available typewriters so that you can produce other materials for your class. You stand in line after school to use the secretary's telephone to call parents of students who have been absent or are behind in their work.

You spend roughly 12 hours each week correcting papers, because you believe your students should write a theme each week. You feel guilty that this allows you to spend only 5 minutes per paper. You spend another 6 hours each week preparing for your five different sections, mostly writing up the behavioral objectives required by the system's curriculum guide, which you find meaningless and even counterproductive to your goals for your students. You do all of this after school hours, because your one preparation period is devoted to preparing attendance forms, doing other administrative paperwork, and meeting with students who need extra help. Between classes, you monitor hallways and restrooms, supervise the lunch room, and track down truants.

You are frustrated that the district's new competency-based curriculum is forcing you to spend more and more of your time teaching students to answer multiple-choice questions about the mechanics of grammar. Meanwhile, your efforts to teach writing and critical thinking are discouraged, as they do not seem to fit with the district's mandated curriculum and testing program. You have no input into decisions about curriculum, teaching methods, materials, or resource allocations. You will, of course, never get a promotion; nor will you have an opportunity to take on new responsibilities. You receive frequent feedback about public dissatisfaction with schools and teachers, but little reinforcement from administrators or parents that your work is appreciated. Sometimes you wonder whether your efforts are worth the $15,000 a year you earn for them.

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[20] Ibid., pp. 76–78; National Education Association, *Nationwide Teacher Opinion Poll, 1983*, p. 9; American Federation of Teachers, *Schools as a Workplace: The Realities of Stress*, Vol. 1, 1983, pp. 15–17.

This description is not an overdramatization. It reflects the modal conditions of teaching work in this country today. The importance of professional working conditions to teacher satisfaction and retention has recently been recognized in a number of studies at Rand and elsewhere. Conditions that undermine teacher efficacy, i.e., the teacher's ability to do an effective job of teaching, are strongly related to teacher attrition. These conditions include lack of opportunity for professional discourse and decisionmaking input; inadequate preparation and teaching time; and conflict with or lack of support from administrators.[21]

A particularly troubling aspect of teachers' dissatisfaction with their working conditions is that the most highly qualified teachers are the most dissatisfied. Chart 11 summarizes some results from a recent Rand study of teachers' views of their work environment.[22] Those with academic majors (i.e., those who have a bachelor's or master's degree in their discipline in addition to a teaching certificate) are more dissatisfied with the lack of administrative support for their work, with bureaucratic interference in their work, with their lack of autonomy, and with salaries and other working conditions than are those with education degrees only. Academic majors have typically taken substantially more college coursework in their area of specialization than education majors, and they also tend to be the teachers who hold more advanced degrees. These highly qualified individuals are the kinds of teachers that many would like to attract to and retain in teaching, yet they are the ones most frustrated by the profession's current work environment. They are also much more likely than other teachers to say they plan to leave teaching.

Unfortunately, the approach to improving education reflected in most of the policy initiatives of the past decade has done little to increase the attractiveness of teaching; it may, in fact, have

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[21] See, for example, Linda Darling-Hammond and Arthur E. Wise, "Teaching Standards or Standardized Teaching?," *Educational Leadership*, October 1983, pp. 66–69; Susan J. Rosenholtz and Mark A. Smylie, *Teacher Compensation and Career Ladders: Policy Implications from Research*, Paper commissioned by the Tennessee General Assembly's Select Committee on Education, December 1983; D. W. Chapman and S. M. Hutcheson, "Attrition from Teaching Careers: A Discriminant Analysis," *American Educational Research Journal*, Vol. 19, 1982, pp. 93–105; M. D. Litt and D. C. Turk, *Stress, Dissatisfaction, and Intention to Leave Teaching in Experienced Public High School Teachers*, Paper presented at the annual meeting of the American Educational Research Association, Montreal, April 1983.

[22] Data are from an ongoing study of the conditions of teaching work being conducted by Arthur E. Wise and Linda Darling-Hammond.

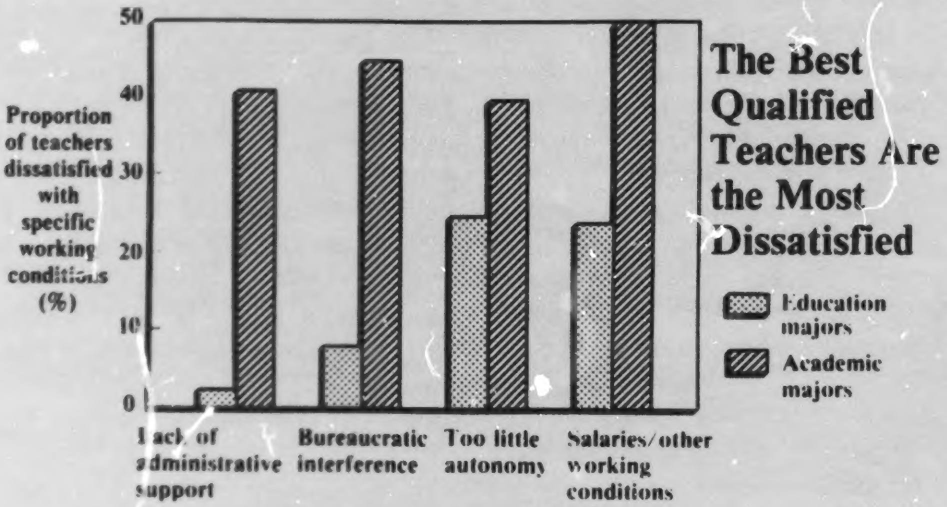
The Best Qualified Teachers Are the Most Dissatisfied

Chart 11

exacerbated the problem. Based on a factory model of schooling in which teachers are semi-skilled, low-paid workers, at least two-thirds of the states enacted policies in the 1970s that sought to standardize and regulate teacher behaviors. Elaborate accountability schemes such as management-by-objectives, competency-based education, minimum-competency testing, and other efforts to develop a teacherproof curriculum were imposed in the belief that if teachers do exactly as they are told, students will learn exactly as they are supposed to.[23] Bureaucratic controls on teaching behaviors were used as an alternative to upgrading the quality of teachers or of professional decisionmaking. As Porter notes:

> The accountability movements of the 1970s view teachers not as autonomous decisionmakers but as agents of public school policymakers, agents subject to hierarchical controls.[24]

These policies have not had the desired effect, because they are based on an inappropriate model of teaching and learning. Indeed, they have had some dysfunctional consequences. Teachers resist bureaucratic attempts to constrain their classroom decisions,[25] not because they are opposed to accountability, but because standardized teaching prescriptions reduce their ability to teach effectively.[26] Highly prescriptive teaching policies often limit the curriculum to those subjects and types of thinking that are most easily tested; such policies also prevent the use of alternative teaching strategies that are more appropriate to students' learning needs and create paperwork burdens that detract from teaching time.[27] The results are twofold: emphasis on procedural conformity to narrowly configured objectives at the expense of more creative forms of teaching and learning; and dissatisfaction on the part of teachers who find their ability to respond to students' needs reduced.

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[23] Arthur E. Wise, *Legislated Learning: The Bureaucratization of the American Classroom*, Berkeley: University of California Press, 1979.

[24] Andrew C. Porter, et al., *Teacher Autonomy and the Control of Content Taught*, Institute for Research on Teaching, Michigan State University, December 1979, p. 4.

Research on effective teaching suggests a very different model for improving education. Studies conducted over the past two decades show that students have different learning styles, and that effective teaching techniques vary for students of different characteristics and at different stages in their development, for different subject areas, and for different learning goals.[28] Appropriate teaching techniques must be determined by diagnosing student needs and matching those diverse needs to appropriate methods of instruction. In this context, professional judgment is a prerequisite for good teaching, because unless students are treated according to their *particular* learning needs, they will be mistreated. Standardized practice is, in essence, malpractice. The need for diagnosis of individual situations and for judgments about appropriate strategies and tactics is what defines a profession.[29]

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[25] Darling-Hammond and Wise, *A Conceptual Framework for Examining Teachers' Views*, pp. 56–57; Lortie, *Schoolteacher*, p. 164; Jackson, *Life in Classrooms*, p. 129; R. G. Corwin, *Militant Professionalism: A Study of Organizational Conflict in High Schools*, Meredith Corporation, 1970; Harry F. Wolcott, *Teachers vs. Technocrats*, University of Oregon Center for Educational Policy and Management, 1979.

[26] Linda Darling-Hammond and Arthur E. Wise, "Beyond Standardization: State Standards and School Improvement," *Elementary School Journal* (forthcoming); Lee S. Shulman, "Autonomy and Obligation," in L. S. Shulman and Gary Sykes (eds.), *Handbook of Teaching and Policy*, New York: Longman, 1983; Michael Lipsky, *Street-Level Bureaucracy*, Russell Sage Foundation, 1980.

[27] Darling-Hammond and Wise, "Beyond Standardization"; Anne M. Bussis, "Burn It at the Casket: Research, Reading Instruction, and Children's Learning of the First R," *Phi Delta Kappan*, December 1982, pp. 237–241; Constance Kamii, "Encouraging Thinking in Mathematics," *Phi Delta Kappan*, December 1982, pp. 247–251; Harriet Talmage and Sue Pinzur Rasher, "Unanticipated Outcomes: The Perils to Curriculum Goals," *Phi Delta Kappan*, September 1980, pp. 30–32, 71.

[28] See, for example, W. Doyle, "Paradigms for Research on Teacher Effectiveness," in Lee S. Shulman (ed.), *Review of Research in Education, Vol. 5*, Itasca, Illinois: F. E. Peacock, 1978; M. J. Dunkin and B. J. Biddle, *The Study of Teaching*, New York: Holt, Rinehart and Winston, 1974; F. J. McDonald and P. Elias, *Executive Summary Report: Beginning Teacher Evaluation Study, Phase II*, Educational Testing Service, 1976; L. J. Cronbach and R. E. Snow, *Aptitudes and Instructional Methods: A Handbook for Research on Interactions*, New York: Irvington, 1977; N. L. Gage, *The Scientific Basis of the Art of Teaching*, New York: Teachers College Press, 1978; J. E. Brophy and C. M. Evertson, *Learning from Teaching: A Developmental Perspective*, Boston: Allyn and Bacon, 1976.

Our own research on teachers reinforces this view. Teachers find that uniform teaching prescriptions prevent them from attending to the variable needs of their students and to the conceptual demands of their academic disciplines. In one study, 45 percent of the teachers we interviewed said they would resign from teaching if prescriptiveness of teaching content and methods increased.[30] For them, a non-professional work structure diminished the satisfactions of their work to an unacceptable degree. Future policies ought to respond to the fact that these professional incentives are very important to teachers.

Professionalizing Teaching

The many factors that discourage qualified people from entering and remaining in the teaching profession are converging at a time when teacher retirements and student enrollment trends are leading to increased demand for teachers. As a consequence, it will be necessary to hire and retain large numbers of marginally qualified people into teaching unless major changes are made in the structure of the occupation.

Higher salaries for teachers are only part of the solution to the problem. The non-pecuniary aspects of teaching are at least as important as salaries in attracting and retaining good teachers. (In any case, the public is not likely to support higher salaries if serious efforts are not made to upgrade the perceived quality of the teaching force.) As in other occupations, improved working conditions for teachers are a partial substitute for higher wages. A particularly important aspect of those working conditions is the degree of professionalism allowed in the work structure. Upgrading the quality of teacher preparation and creating more professional working conditions are part of a structural solution, one that attends to the interrelated causes of the problem rather than merely to its symptoms. In fact, teaching is now much like the legal and medical professions were at the turn of the century. Until fundamental changes were made in the structure of these professions, they, too, were characterized by low wages, easy access, poor training, no real standards of practice, and a poor public image.

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[29] Linda Darling-Hammond, Arthur E. Wise, and Sara R. Pease, "Teacher Evaluation in the Organizational Context: A Review of the Literature," *Review of Educational Research*, Vol. 53, No. 3, Fall 1983, pp. 285–328; Gage, *The Scientific Basis of the Art of Teaching*, p. 15; Harry S. Broudy, "Teaching—Craft or Profession?," *The Educational Forum*, January 1956, pp. 175–184.

[30] Darling-Hammond and Wise, "Teaching Standards or Standardized Teaching?," p. 69.

What would it mean to "professionalize" teaching? The following features that characterize most modern professions serve to ensure and allow competent performance:

- Rigorous entry requirements
- Supervised induction
- Autonomous performance
- Peer-defined standards of practice
- Increased responsibility with increased competence

Entry requirements are rigorous because the work requires mastery of a body of knowledge. Induction into the occupation is supervised by experienced practitioners because developing professional judgment means learning how to translate theory into practice. Performance after induction is autonomous because treatment must be tailored to the clientele and their specific needs. Peers define standards of practice because specialized expertise is the basis for informed judgment, and standardized procedures cannot meet the demands of the work. Tying increased responsibility to demonstrated competence is the means by which professional standards of practice are promulgated and conveyed. Experienced practitioners induct new entrants and are responsible for technical decisions.

On the basis of these characteristics, we make the following recommendations for reforming the teaching profession. First, establish professionally competitive salaries for teachers; in the current marketplace, this means starting salaries of $20,000 with career increases of up to $50,000 (the salary level of middle-management school employees). Second, offer recruitment incentives such as scholarships and forgivable loans for academically talented college students to enter teaching, similar to the National Defense and Education Act loans of the 1960s. Third, improve teacher education by making it more intellectually rigorous and requiring internships supervised by senior teachers before tenure is granted. Fourth, improve working conditions by allowing paraprofessionals to assume the non-teaching duties now performed by teachers and by allowing teachers more time to teach, to prepare, and to share in instructional decisionmaking. Fifth, allow experienced teachers to assume responsibilities for supervising new teachers and for developing programs as they move up a more differentiated career ladder with specific evaluation and promotion points. Taken together, these reforms suggest a new career structure in which professionally enforced standards of practice are combined with increased responsibility for technical decisionmaking by those who successfully demonstrate their competence.

Although these proposals start with higher salaries for teachers, they also imply changes in resource allocations within schools. As bureaucratization took hold in American schools, teacher salaries slipped from 49 percent of educational expenditures in 1972 to only 38 percent in 1982.[31] Changing the teaching career structure would also change administrative structures and roles, and hence the allocation of educational dollars. If teachers were to assume many of the instructional tasks currently performed by administrators (e.g., curriculum development and supervision), the layers of bureaucratic hierarchy could be reduced. Of course, further study will be needed to determine how administrative structures could be changed and to inform strategic planning efforts at the local level. However, we believe that efforts in these directions can lead to a more professional and more instructionally productive approach to schooling as well as to teaching. Reduced bureaucratic accountability demands would allow schools to become more client-oriented; and within a professional accountability structure, teachers could rely on peer support and assistance in working out problems of practice.[32]

Restructuring the teaching occupation is not a trivial undertaking. These proposals entail substantial costs; they are politically difficult, particularly in the light of public perceptions of low teacher quality; and they require some profound organizational changes, which are never easy to initiate. However, there are some opportunities for change that could offset these obvious barriers.

The attention to education generated by the recent commission reports has created a climate for reform that is in fact causing a great many states to entertain new proposals. Several states have already increased teachers' salaries and are trying to implement some kind of teacher incentive program. The coming large-scale retirements of teachers will provide new opportunities in two ways. First, the very experienced, expensive teachers will be replaced with less expensive teachers, so that the costs of upgrading salaries can be absorbed over a longer period of time. Second, it is more feasible and cost-effective to restructure induction into the profession when a major change in the membership of the work force is occurring. Finally, the costs of the reforms are not as enormous as they might at first appear. As noted above, some reallocation of resources is implicit in a new career structure. Furthermore, as fewer of the educational dollars have been spent on teachers over the last decade, fewer dollars have also been spent on education. Public elementary and secondary education expenditures dropped from 5.5 percent of personal income to 4.6 percent between 1972 and 1982.[33] We can, if we choose, return to a higher level of commitment to education.

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[31] C. Emily Feistritzer, *The Condition of Teaching: A State by State Analysis*, The Carnegie Foundation for the Advancement of Teaching, 1983, p. 50.

[32] Research on effective schools suggests that collegial settings in which teachers assist each other and solve problems collectively enhance teacher satisfaction and efficacy, along with student learning outcomes. See, for example, Rosenholtz and Smylie, *Teacher Compensation and Career Ladders*; P. T. Ashton, R. B. Webb, and N. Doda, *A Study of Teachers' Sense of Efficacy: Final Report*, The University of Florida, 1983; H. J. Walberg and W. J. Genova, "Staff, School, and Workshop Influences on Knowledge Use in Educational Improvement Efforts," *Journal of Educational Research*, Vol. 76, 1982, pp. 67–80; Wilbur Brookover, *Schools Can Make a Difference*, Michigan State University, 1977; Paul Berman and Milbrey W. McLaughlin, *Federal Programs Supporting Educational Change, Vol. 7: Factors Affecting Implementation and Continuation*, The Rand Corporation, R-1589/7-HEW, April 1977.

In addition to asking about the barriers and opportunities for significant reforms, we should also ask what the alternatives are. If we choose to ignore the structural problems of the teaching profession, we will in a very few years face shortages of qualified teachers in virtually every subject area. We will be forced to hire the least academically able students to fill these vacancies, and they will become the tenured teaching force for the next two generations of American school children.

If we are serious about improving the quality of education, we will have to make more than marginal changes in the attractiveness of the teaching profession. The search for excellence as it is being conducted in most states will not solve the problem. Fundamental reform of the teaching profession will be required.

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[33] Feistritzer, *The Condition of Teaching*, pp. 51–52.

WHY TEACHERS CAN'T TEACH

by Gene Lyons

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Because they don't know anything. Teacher education is a massive fraud. It drives out dedicated people, rewards incompetence, and wastes millions of dollars. Our taxes pay for it all, but our children pay the real price.

FIFTY PER CENT OF DISD TEACHERS FAIL TO PASS TEST, said the headline in the *Dallas Times Herald* last summer, and the wire services relayed the news to much of the civilized world. Poor Dallas. Twenty years in court over desegregation and busing, and now this. Actually, the Wesman Personnel Classification Test was given not to all Dallas teachers but to 535 first year teachers. Half fell below the score considered acceptable by the DISD—and that standard itself was far from rigorous. (See page 126.) The teachers were considerably outperformed on the same test by a volunteer group of juniors and seniors from Jesuit College Preparatory School, a private high school in North Dallas.

Less well publicized, but equally disturbing, was the Houston Independent School District's discovery at about the same time that fully half its teacher applicants scored lower in mathematical achievement than the average high school junior; about a third were similarly defective in using the English language.

Before those whose children are enrolled in districts other than Dallas or Houston congratulate themselves, they should ponder this: every school system in Texas gets its teachers from exactly the same places Dallas and Houston do—the 63 accredited teacher-training institutions in the state. Teachers just as poorly prepared are opening school this fall from Amarillo to Brownsville, Orange to El Paso—teachers who cannot read as well as the average sixteen-year-old, write notes free of barbarisms to parents, or handle arithmetic well enough to keep track of the field-trip money.

How can this be? Texas spends a staggering amount of money on education—more than half the state budget, or $4 billion in 1978. And that doesn't include another $397 million in federal funds. What are we getting for our dollars? What happened to the era, not so long ago, really, when teachers were rightfully respected as the best-educated people in the community? And now they can't outperform high school juniors. How has it come to this?

Everybody has a suspect: integration, segregation, permissiveness, regimentation, the Viet Nam War, drugs, television, divorce, the suburbs, the inner city—everything but sunspots and the phases of the moon. Conditioned by decades of propaganda from professional educators, we indict society, which cannot defend itself. But the educators themselves are largely to blame, and in particular the teacher colleges, which are their single most harmful creation—harmful both in coddling ignorance and in driving self-respecting students away. Backed by hometown legislators, these colleges have no effective political opposition and are accountable to no one. They turn out hordes of certified ignoramuses whose incompetence in turn becomes evidence that the teacher colleges and the educators need yet more money and more power.

Under pressure from taxpayers and the federal courts, the DISD resorted to the Wesman test because it has learned that the teacher colleges cannot be trusted. Transcripts are a sham; letters of recommendation promiscuous. Certified teachers are pouring out of those 63 colleges like the mops and water buckets that overwhelmed poor Mickey Mouse in Disney's *Fantasia*. There is at present a

Photography by Andy Vracin/Kirkley Photography

"Entering freshmen who declare education as their major score worse on college boards than any other entering group. Yet in 1977 the University of Houston's secondary education department awarded A's to 76.5 per cent of the students in its classes."

glut of teachers in most subject areas (mathematics and science being an exception due to better opportunities elsewhere), but without some reliable way of distinguishing among applicants, the DISD's surplus of applicants might as well have been a shortage. Hence the Wesman test and subsequent follies.

Troubled and irritated by what the DISD experience seemed to suggest—and versions of it are being repeated all over the United States—I formulated two simple questions and undertook a journey through the wonderland of teacher education in search of enlightenment. Those questions were: How did such incompetents gain Texas teaching certificates? and What on earth did they do in college? Having spent a number of years as a college teacher, I had some idea of what was going on, but the things I found out still took my breath away. The business of teacher education in Texas—as everywhere else in America—is a shame, a mammoth and very expensive swindle of the public interest, a hoax, and an intellectual disgrace. So come along. Until you have been there, you will never quite believe it.

To understand how the teaching profession has degraded itself, you must grasp fully the closed and circular nature of our public educational system and a little bit about how it got that way. Around the turn of the century certain of the pedagogical theories of John Dewey were seized upon by "progressive" educators anxious to reform the authoritarian rote and memorization practices of the time. Dewey was one of America's handful of genuine philosophers, but like many another seminal thinker's, his theories have been misrepresented and wrongly applied so long and widely that today's educational dogma almost parodies the practices he urged. After eighty years Dewey's arguments in favor of student-centered rather than subject-centered approaches to learning have resulted in schools of education that stress method over subject matter to the point that would-be teachers spend all of their time learning *how* to teach. *What* to teach has unfortunately perished in the transition. A now self-evident truth—that a certain amount of pedagogical training beyond mere book knowledge is useful—has been used by the Educationists to create a tax-supported empire of cant.

By Educationists I mean the officers rather than the enlisted men—the deans and professors of education, school administrators, the bureaucrats at organizations like the Texas Education Agency and the U.S. Department of Health, Education, and Welfare, the chief beneficiaries, in short, of things as they are. It is very simple: unless and until you have completed basic training as mandated by the Educationists, you cannot teach in a public school. In Texas there is no standard other than the completion of a bachelor's degree with the required number of education courses. As matters stand, no graduate of a TEA-approved teacher-training program, no matter how incompetent, is excluded from the profession. There is no test, no qualifying exam. Nobody else, no matter how learned or capable, is admitted. In order to join the officer class, to become, in other words, anything from assistant principal of an elementary school in San Angelo to director of the TEA, graduate training in education is a necessity. Otherwise there is no use applying.

Compare, for example, journalism. Most of the 63 teacher-training colleges in Texas also have journalism departments. Academic journalism is like education in that both are disciplines based upon pragmatic skills; they have no subject matter of their own. As matters stand, however, almost anybody can get a job in publishing or broadcasting if the people in charge think he can write, edit, or perform other necessary skills. Ability to do the thing at hand is deemed sufficient license to practice, and the best judges are assumed to be persons who have shown themselves to be competent. Nobody I know in the trade would *ever* take for granted that a college degree in journalism was on its face indicative of anything except that the bearer had passed a certain amount of time in the proximity of a college or a university. Graduate journalism is mostly for persons who want to be journalism professors; the university, as we shall see more than once, is a world of its own. Most private schools, which are not accountable to the Texas education establishment, similarly take a dim view of education majors.

Perhaps our ancestors were wiser than we are. Before normal schools grew into teacher colleges and later metamorphosed into universities, basic literacy of the kind the DISD was testing for was not merely expected of would-be teachers, it was required. "No pupil should be allowed in the normal school," reads the 1904 announcement of what is now Southwest Texas State University, "without standing a reasonably fair examination upon the branches taught in the free public schools."

Novels of that period often portrayed the schoolteacher as a figure of fun—a prig, pedant, or old-womanish prude—but never as a dimwit. Learning was respected. But as soon as everyone started going to college, the status of the teacher as the community guardian and source of knowledge was endangered. The profession responded the way of all professions threatened with encroachment: it closed the shop. Since teachers no longer had a monopoly on knowledge, they focused on their one remaining exclusive possession: teacher education. In 1955 the Legislature made graduation from an accredited teacher-training program a prerequisite for a teaching certificate. Like most bureaucratic entities with monopolistic tendencies—the Pentagon comes to mind—the Educationist establishment has three essential and closely related functions besides the nominal one of teaching kids. They are: to grow, to protect the profession from competition, and to ward off outside scrutiny.

Central to all three functions is the establishment and elaboration of dogma. Ask hard questions of almost anyone involved with teacher education—the Texas Education Agency, the colleges and their education departments, the school districts and their teachers—and the chances are the first response will be to kick the problem downstairs. The TEA insists it is powerless to demand competence due to political pressure exerted on the Legislature by the colleges. The colleges insist they must assume prospective teachers to be literate when they arrive from the high schools. High school teachers say they cannot ignore subject matter in their courses to teach skills that should have been mastered in junior high. Eighth-grade teachers blame seventh-grade teachers, and so forth back to first grade, where teachers have no one left to blame but society, which

> *"Gifted students are forced to choose between certifying to teach and getting a decent education. How many potentially fine teachers are lost because they refuse to submit to mindless busywork? When both the ambitious and the idealistic are eliminated, the incompetent fill the gap."*

they do. The NEA (National Education Association), the chief proponent of no-fault teaching, urges us in a pamphlet to take note, before deciding who is responsible for plummeting test scores, of the "distractions which characterized American life in the past decade or so." Among the nominees are the war, the draft, riots, corruption in high places, assassinations, and television. The "decade of distraction," we are told, "puts an additional burden on teachers who are asked to provide stability while other aspects of life are in chaos." If everyone is to blame, in other words, no one is to blame.

It is considered rude to point out that all of the above except television have been constants of America's and everybody else's history, and that further disruption outside the classroom may confidently be predicted. Society, moreover, cannot be fired or have its budget cut. All it can do is feel guilty and go to PTA meetings.

The same NEA pamphlet quoted above, written as a response to public concern over declining test scores, urges us to remain philosophical: "While we ask why the scores on college entrance examinations have gone down, T. S. Eliot's probing goes much deeper: 'Where is the learning we have lost in information? Where is the understanding we have lost in knowledge? Where is the life we have lost in living?' " As usual, the Educationists are changing the subject. Eliot was asking a religious question about man's quest for wisdom and his fear of inauthenticity; we want to know about test scores. By quoting him, the NEA seeks a classy way to preserve that most sanctified of Educationist principles, that of the Whole Child. (During the sixties it was called "relevance" but the same thing was meant.) According to that doctrine, so prevalent among professional educators that it is invisible to them much of the time, to insist upon literacy is considered coercive and potentially harmful; secondary matters such as sex education, driver training, drug counseling, and the proper attitude toward siblings are equally necessary. Many of these goals are, of course, worthy. But they *are* secondary. Everywhere but in the education school, that is.

For the Educationists, the doctrine of the Whole Child is a magical balm that washes away their sins. Ask a question about *skills*, and you get T. S. Eliot, transforming the question to one about *values*. Who is a happier and more productive member of the human community, an illiterate peasant or a tax lawyer? Values, of course, are relative. What then is the point of having tests at all, whether of students or teachers? By a marvelous coincidence, the NEA was holding its national convention in Dallas last summer at about the same time the bad news about the DISD teachers was breaking. Hardly ruffled, the nation's largest teachers' organization paused just long enough in its deliberations to pass a resolution condemning competency testing. Should public unrest persist, we may yet hear the NEA citing Ecclesiastes: "He that increaseth knowledge increaseth sorrow."

To be sure, not all teachers agree. The American Federation of Teachers, affiliated with the AFL-CIO, favors competency testing, the Dallas NEA affiliate has no objection, and many teachers I talked with felt the NEA, as one high school teacher put it, "made us look like a bunch of cowardly blockheads." But unless you understand that the NEA was being perfectly sincere, not defensive or cowardly, you don't understand the Educationists' world view in its fullest incarnation. For this I recommend that you read the aforementioned pamphlet, entitled *On Further Examination of "On Further Examination."* Naturally, the document contains the obligatory attack on competency tests for cultural bias and the obligatory defense of teachers against charges that they are in any way responsible for whatever may be wrong with American education. But what really caught my eye was the suggestion that competency tests are not just unfair but actually dangerous.

As an example of the NEA's reasoning, consider its reaction to the idea of exit examinations that would ask students to prove, in order to graduate, that they had actually learned what they are assumed to have been taught: "Once we establish minimal competencies we tend to get just that—minimal competence. One would hope for considerably more than this." Of course one would. One would also hope for more from the NEA than an assertion so contrary to common sense. No soap.

Equally revealing is the section titled "About the Future." "It is unlikely," the NEA contends, "that eighth-grade teachers would think it appropriate to give a test to one eighth-grade class in 1970 and to another eighth-grade class seven years later and expect the difference in scores to say anything useful. What would such a difference in scores mean? That the teacher is better or worse? That the students have gotten smarter or dumber? That societal values have changed? That our knowledge base is different? Can we, in fact, compare children of one set of circumstances with those of another?" The paragraph closes with a slap at those who "believe that there is a single unchanging standard which can be measured and compared across time" and asks, "Is this a realistic assumption?"

To this I can only reply: of course it is. I completed the eighth grade in 1957. There is no question that societal values have undergone considerable change in the 22 years intervening, and that the sum of human knowledge is greater than it was then. But the last time I checked, three 9's still equaled 27, nouns and verbs still had to agree, and the nation of Italy continued to extend into the Mediterranean Sea and somewhat resembled a boot. Test results in Dallas, Houston, and elsewhere suggest that large numbers of certified teachers are not capable of passing on such skills and bits of knowledge because they have no command of them to begin with. Educationists are afflicted with a cultural relativism so profound it has become an intellectual disease. The obvious proposition that values are relative has been warped to signify the opposite of what it really means: that some facts and ideas are more important than others. In Educationese it means that they are equally arbitrary. Hence charges of cultural bias, where bias is defined as requiring literacy and the kind of knowledge rarely gained by hanging out on street corners or watching soap operas.

The products of the Educationist monopoly descend upon the colleges and universities, which, like the rest of the bureaucracy, are committed to permanent growth. Having long ago surrendered to the twin deities of egalitarianism and vocational training, colleges and universities have lost control of their own curricula. On most campuses, there is a continuing low-grade conflict be-

"Passing incompetent students is a matter of self-preservation," Professor Haney told me. "I'm teaching a methods course for students who will be teaching high school English in a year or two. If I flunked seventy-five to eighty per cent of them, what would happen to my job?"

tween the basic, traditional academic disciplines, in which fundamental intellectual skills are supposed to be taught, and the vocational programs. Job training is winning everywhere—in too many instances a sort of job training that leaves students unprepared for the profession they think they are ready to enter and insufficiently educated to adjust when the jobs don't materialize. Philosophy shrinks almost out of existence, while fashion merchandising advances.

So the catalog grows thicker by the year, and students have a promiscuous choice of courses that are the intellectual equivalent of puffed wheat: one kernel of knowledge inflated by means of hot air, divided into pieces, and puffed again. The vast majority of such courses are graded, if at all, by multiple-choice or true-false exams. In those rare instances where written work is given, grammar, punctuation, and style are seen to be the business of the English department alone. Nobody in most departments really has any idea whether his students are fully literate; very likely he has never asked them to write. (Perhaps that is just as well, given the kind of jargon-laden, semiliterate humbug that is the going thing in far too many disciplines.) American higher education has been drifting in this direction for some time. The public schools, dominated by Educationists, have already been there for quite a while. Very bright students who catch on early or who come from educated families may escape with a few skills; the rest are defrauded into believing they have an education.

When I was in school I always assumed that teachers were persons who had been very good students themselves. Some facts compiled by the Coordinating Board of the Texas College and University System make it clear that such is not the case today—at least, not until they enroll in the school of education, where everyone is transformed into an A student.

Of the 10,120 new teachers who graduated in Texas colleges in 1978, 8273, or roughly 80 per cent, attended public institutions. The greatest number, 869, came from Southwest Texas State University at San Marcos. North Texas graduated 648, East Texas 601, Stephen F. Austin 491. Of the larger schools, UT-Austin graduated 690, Texas Tech 623, Texas A&M 453, the University of Houston 362, and so on. In the private sector only Baylor prepares teachers in large numbers, graduating an even 400. SMU was next with 73. Rice graduated exactly 1. The higher a college's entrance requirements and general academic reputation, the lower the percentage of certified-teacher graduates in its graduating class. Smart kids with good high school records avoid teacher training.

Most education majors come from lower-middle- or low-income backgrounds and often from families in which they are the first generation to attend college. I mean no condescension here: I am such a person myself. Those are the facts. Another fact is that entrance requirements at the schools that prepare the largest number of teachers are quite low. To matriculate at Southwest Texas State, for example, one need only to graduate from high school and score 13 on the ACT (American College Testing Program) test, a figure corresponding roughly to a 750 combined score on the Scholastic Aptitude Test (SAT)—far below the average of all high school seniors, and ranking in about the 35th percentile nationally. Anyone who still can't meet what are loosely called the "standards" may attend junior college and transfer to Southwest Texas or any public four-year college after two years of maintaining a C average.

A statistical profile of the Southwest Texas freshman class of 1977 shows that entering freshmen who declared education as their major had the lowest mean test scores of any entering group. Their ACT scores corresponded roughly to an SAT score of 825—still quite below the national average. Reasonable people disagree about whether the ACT and SAT tests measure intelligence or achievement; they probably measure a little of both. What nobody denies is that they are good predictors of academic success.

It is easy to say that higher scores and better grades should be required, but the situation is more complicated: many educators believe we are headed within a decade for the worst teacher shortage since the early sixties, particularly in mathematics and the sciences. Short of unforeseeable and quite unlikely changes in the relative economics of the teaching profession, such a tightening of entrance requirements would eventually be self-defeating.

But one needn't be a Phi Beta Kappa to teach elementary school, nor a Rhodes scholar to do an adequate job in a high school classroom. Persons of normal intelligence who have had halfway-decent schooling to which they have applied themselves at all should have nothing to fear from such a test as the Wesman and ought to be able to produce a paragraph free of barbarisms. Unfortunately, most college education programs are even less rigorous than the entrance standards. A recent study at the University of Houston reported that during the spring semester of 1977, the secondary education department awarded A's to 76.5 per cent of the students in its courses. Another 13.5 per cent received B's, 1.4 per cent C's, and the rest were incompletes or withdrawals. No grades of D or F were recorded the entire semester. To show the direction things on campus are headed, in 1966 the grade breakdown for the same department was 23 per cent A's, 46 per cent B's, and 22 per cent C's—not exactly rigorous, but at least defensible.

Think that's an isolated case? Then compare elementary education for the same 1977 semester: 70 per cent A's, 23 per cent B's, 3 per cent C's. But wait: there *was* one D handed out. (One hesitates to think what that poor solitary kid must have done to deserve such ignominy.) Nobody failed. *Nobody failed.* Not one student in elementary or secondary education was too dumb or too lazy to pass. Nobody failed to show up for an exam, nobody failed to hand in his work, nobody just up and disappeared without a trace. Maybe this was a particularly worthy crop of aspiring teachers; maybe they will emerge to reverse the decline of learning in the public schools. But I think I am justified in being skeptical. Nor is there any reason at all to believe the University of Houston is more lax than other schools; it merely had the courage to gather and release the data.

What is the cause of grade inflation? It is simple: all public colleges, and all their divisions and departments, get their operating budgets from the state according to formulas based almost entirely upon the number of students enrolled. Is it any wonder that elementary-education students at Southwest Texas State are allowed no electives whatsoever in four years? The departments get more money by getting bigger, less money by getting

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WHY TEACHERS CAN'T TEACH

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smaller. Sufficient shrinkage can lead to loss of jobs. In this atmosphere, academic rigor that caused students to drop out or transfer to a less demanding field of study would be a financial liability. Grade inflation is built into the system; it is a matter of survival.

This is also the key to understanding the puffed-wheat curriculum and the self-perpetuating nature of the Educationist empire. Consider the following examples selected from among the 361 separate education courses listed in the catalog at Southwest Texas. There it is possible to earn three hours of college credit by taking "Materials for Rhythmical Activities," "Administering Leisure Delivery Systems," "Motorcycle Safety and Rider Education," or my personal favorite, a graduate course called "Administration and Supervision of Driver Education." School administrators are drawn almost entirely from the ranks of true believers or hypocrites who will sit in such courses placidly taking notes while fools dissect, categorize, and elaborate upon the perfectly obvious. If you don't believe me, come along to Southwest Texas State University, though stand forewarned that unless you are already quite familiar with what goes on in education departments, much of what you are about to read will seem so far removed from your concept of learning that it will seem a transmission from an alien planet.

I chose to visit Southwest Texas simply because the most teachers are trained there. Among school administrators in Central Texas, where most of its graduates end up, it is regarded as a cut above average, something I had to keep reminding myself as I toured the campus. Walking around on a sunny spring day, I could not help but be struck by the juxtaposition of the institution's monolithic new architecture—hermetically sealed buildings looking as though they were designed to withstand nuclear attack—and the fact that every inch of unshaded grass was covered with roasting young women in bikinis. Judging from what students told me, maintaining a 2.0, or C, average at SWT, which is what is required for entry into the teacher-certification program, seems to be no harder than at the University of Houston or at any of the other schools that produce the vast majority of Texas' teachers.

The School of Education contains five departments: physical education, industrial arts, psychology, education, and special education. It offers 27 different undergraduate and graduate degrees, most of them with specialized options that make a student's choices seem almost exponential. It is now possible—indeed, to get certain kinds of jobs it is mandatory—to secure a degree in elementary education with an emphasis in a specialty like geography, though why an adult would need to specialize in order to stay ahead of a class of third-graders is not explained in the catalog. Since identifying the folly of a semester-long graduate driver education course would be no more difficult than finding a drunk in a roadhouse on Saturday night, I decided to stick to undergraduate classes required of everyone hoping to become certified.

Education 3320, "The Elementary School: Principles and Curriculum," is required for certification and has several sections. The one I attended was team-taught by professors Bob Williamson, director of elementary education at SWT, and Hal Blythe. Both men have doctorates in education administration, and both have been elementary-school teachers and principals.

I asked Blythe whether all, or even the majority, of Southwest Texas State elementary-education majors emerge into their junior-level courses fully literate in basic areas of knowledge. "No, they don't," he said, but added, "By the time they get this far, you can hardly do anything about it." He went on to relate a tale of how, in his first year at the college, he attempted to prevent a student of his who was functionally illiterate from receiving a degree and the automatic teacher certification that goes with it. "Pressure came down from above," he said, "and I was on the griddle. It turned out that he already had a job." Blythe gave the clear impression that he had learned a rueful lesson about the realities of academic power and would be quite reluctant to climb onto the griddle again. He did say the continuing certification of incompetent teachers was, in his words, "a cop-out," but confessed that when the time came to fail or fire those who deserved the fate, "We—and in this case I'm talking about all of us—simply don't have the guts to do it." At the same time, however, both he and Williamson spoke with eager concern about the necessity that elementary teachers, especially, have what the two professors call "human-relations skills," and about their frustrations as former principals with "teachers who could pass paper and pencil tests but who could not relate to people."

Elementary Education 3320, which has no textbook and seems to require no original written work, is clearly aimed at human-relations, not paper and pencil, skills. On the day I attended, the class of 40 (38 of them young women) was divided into three groups of roughly equal size in a large, open classroom. Two of the groups were seated at large tables taking notes from, or drumming their fingertips to, separate recorded lectures of what I took to be a vaguely inspirational nature. The third group was seated in front of a television monitor watching videotape cassettes of themselves and other members of their group teaching each other various elementary-school lessons. As they watched, they were filling in evaluative forms to be presented to the individual for her private edification. Blythe and Williamson stayed behind them, filling out identical forms and occasionally coming forward to whisper a private note of criticism or encouragement to the student on the screen: face the class, summon students to the blackboard instead of calling for volunteers, involve the quiet students as well as those with their hands always in the air, smile.

Because the students on the tape were not real kids, but college students pretending to be kids, the whole exercise had an air of "let's pretend," like sorority sisters rehearsing a skit for rush week. In an attempt to overcome this problem, Blythe and Williamson sometimes distribute what they call "role-playing cards," which direct the recipients to act up in a childlike manner (is there a card somewhere reading URINATE IN YOUR CHAIR?), a tactic that, although I did not see it used, would seem likely to make what is already a bit silly become downright absurd. As the spring term was nearly over, I took what I was seeing on the cassettes to be the result of an entire semester's work—which, when I checked the course syllabus, turned out to be true.

I came away with two conclusions. One was that the course was clearly, if not intentionally, set up so that it requires a minimum of outside work, kept professors off the griddle on the question of literacy, and was virtually impossible to fail. To give an F or even a C in such a course would be almost impossible without a display of obvious feeblemindedness or paralyzing stage fright on a prospective teacher's part. Where there is no subject matter, only method, the bad news never gets delivered.

My second conclusion was that enormous amounts of money, energy, and time were wasted by forcing forty students to come to class a couple of times a week for four months. They got less individual guidance and useful experience than they could get in two weeks if, instead of being isolated on a small-town campus and working on their suntans (and the majority looked as if they had just returned from the Bahamas), they were apprenticed after securing honest college degrees to proven and experienced master teachers in actual classrooms with real kids. I asked Williamson if something like that would not make more sense. "You know how I'm going to react to that," he said. "You're talking about my job."

Education 3330, "The Secondary School: Principles and Procedures," is a methods course required for teaching above the elementary level. The dean the department head commended to me

Professor Lowell Bynum, whose doctorate is in secondary education, and who has many years of experience as a band director and a principal at both the elementary and secondary levels. His class was conducted in a room equipped with two walls of one-way glass so observers could watch and listen without disturbing things inside.

On the day I visited his class, again toward the end of the semester, the atmosphere among Bynum's ten or so students—he divides his sections into thirds and meets with them separately—was somewhere between manic and hilarious. Like their counterparts in elementary education, Bynum's charges were spending the hour evaluating videotape cassettes of themselves and their classmates. The tool for this was a mimeographed handout obscurely titled "Refocusing Reteach." Down the left side of the form Bynum had listed six of what he styled "Instructional Objectives for this Teach." Four of those six categories used the word "unique" to describe the quality sought. Another had to do with observing time limits—secondary-school teachers are now advised to change their approach at least three, and preferably four, times each hour, like TV newsmen. The other category dealt with "specific refocusing skills." Bynum seemed to be interested in originality. He certainly got it.

First up was a would-be English teacher who wished to discuss with her classmates the subject of legendary heroes. Or rather, she wished them to name a few. She offered as an example Odysseus. Somebody else mentioned Abraham Lincoln. Luckily for adherents of realism, these role players were not much removed in age or maturity from the adolescents they were supposed to portray, so as would no doubt happen just as quickly in most junior high school classrooms, someone mentioned Roger Staubach and basketball's "Dr. J," Julius Erving. One would hope that the teacher-to-be would have drawn the students out a bit on the difference between literary, historical, and "living" legends, but naming was as far as it got.

Next up was a tennis lesson. On tactics. In a classroom. The putative coach called to the front of the room two students, a man and a woman. The man was introduced as bad-tempered and impatient. She was a steady, dependable, low-key sort of person, good at restraining her emotions. How should she play him? "She should hit the ball real close to the lines to make him blow up," a student volunteered. The coach allowed as how that made a lot of sense, proving not only that tennis cannot be taught in a classroom, but that he couldn't teach it on a court either: the correct strategy in so paradigmatic a case is to imitate a backboard and let the impatient player make all the errors. I never did figure out what specific skills were being refocused by issuing the two students rackets and a ball and having them hit it back and forth at a distance of about four feet, but a good time, I can assure you, was had by all.

A social-studies teaching prospect bunched the entire class into a corner to demonstrate the presumed discomforts of overcrowding. "People in Harris County are getting uneasy" seemed to be the point. More hilarity. Another social-studies trainee did a reasonably funny impersonation of the first woman president holding a press conference. The rest of the class imitated the press corps and asked questions about her private life, most of them containing the kind of guffawing sexual innuendo familiar to watchers of Johnny Carson. A "creative-writing teacher" stressed creativity by spreading out on a desk a collection of small items, most of them from the supermarket, and asking each student to combine any two to make a new product. Thus were invented "coach's liquid pizza" (by the tennis instructor), "spray-on peanut butter," and "condensed water." What these students were good at, I began to see, was imitating television skits, since that is where they are getting the bulk of their real education. I began to wonder if I had not wandered into a class for stand-up comedians. Everybody was having a grand time, and why not? Everybody was getting an A, or at worst a B.

One student with hopes of teaching journalism passed around blank sheets of paper accompanied by a list of news stories ranging from ax murders to international treaties and invited her classmates to cooperate in laying out the first two pages of a "conservative" and a "sensational" newspaper, which struck me as the most, and indeed only, useful idea I had heard. It seemed to provoke fewer laughs than the others, however, so I feared for the poor woman's grade. The most appalling example from my point of view as a former literature teacher, however, was the TV College Bowl quiz format invented by another would-be English teacher—appalling not only in its reliance on the tube but also for its revelations about unlettered students. For a five-point toss-up, nobody could name a single work by either Tolstoy or Stendhal. The quizmaster knew one, Stendhal's *The Red and the Black*, but had not read it herself and conceded to her groaning classmates that "it's not well known." For another five-pointer nobody could summon the name of the man who wrote *Lord Jim*. Remember now, we are not talking about real high school students but college seniors, and about college seniors, moreover, who will be in Texas high schools as teachers by the time you read this article, none of whom knew who wrote *War and Peace* or the name Joseph Conrad.

Back to the quiz. William F. Buckley was identified without demur as a senator from New York, not as the brother of James, the real former senator. Apparently the editorial page of the daily newspaper is as remote from the students' consciousness as Napoleonic France. But all is not lost. "Name a novel by Jacqueline Susann" brought a cascade of shouted responses: *"Valley of the Dolls, Once Is Not Enough . . ."* Those are all I know. Several of the students at Southwest Texas State were four titles deep.

Afterward, Professor Bynum got up for a brief set of closing remarks. He stressed the artificial nature of teaching one's peers in front of a television camera, a small group with no discipline problems. He categorized most of what he had seen as "teacher-centered learning" and hoped they would remember there are other methods. "If you end up as one of those teachers who comes in and says, 'Read chapter three and answer the questions,' " he said as a parting shot, "that noise you hear at the window will be me. I'll be back to haunt you." God forbid, I thought, that they should ever ask anybody to read and write. Anything but Jacqueline Susann, that is.

If schools of education were in the business of producing fully literate adult professionals, such nonsense as I have described above would be hooted out of the catalog. Instead, gifted students are forced to choose between certifying to teach and getting a decent education. Who can say how many potentially fine young teachers are lost to public education each year because they have too much self-respect to submit themselves to such play-acting? When both the ambitious and the idealistic are eliminated in large numbers, the incompetent fill the gap. But who is going to change the system? Not the Educationists: "You're talking about my job."

If anything, the impetus is moving the other way, toward more specialization and more education courses, away from basic knowledge. The going thing these days, if you're thinking about getting into teaching, is bilingual education. Accordingly a clamor is rising in the education schools to "upgrade" the degree required from a BEd (or MEd) with bilingual specialization to a degree in bilingual education itself. This will have the dual effect not only of providing yet more courses for an expanded faculty to teach, but of rendering obsolete the credentials of teachers in the field, whose job mobility will be threatened unless they return to school to secure the new degree. And so on. The same "upgrading" has already occurred in such growth areas as special education, learning disabilities, and reading.

With their locomotive rolling along so

well, the Educationists never stop to ask if it might be on the wrong track. Ask them about the problem of literacy and they will either deny that there is a problem or that they have any responsibility for or ability to change it. All those I talked with at Southwest Texas State are sure *their* graduates could not be among those teachers failing basic literacy tests. No one, however, has tried to find out. In that Southwest Texas is not unique: DISD assistant superintendent John Santillo told me that no one from any teacher-training institution in Texas has contacted him to find out how its graduates have done. Several faculty members in education at SWT professed never to have heard anything about the Dallas or Houston competency tests, which must not only place them among the minority of literate Texas adults but, more to the point, shows how little concern or connection they have with how their theories are faring in the outside world. And no wonder: "You're talking about my job."

The self-deception can go to astonishing lengths. In the SWT School of Education's report to the TEA I learned of a school policy that all prospective teachers must be grounded in "what is [sic] regarded as the basic areas of knowledge." An accompanying letter from the chairman of the English department, which is responsible for twelve hours of this basic knowledge, assures the TEA that Southwest Texas has "put more emphasis on literate writing for all students who are graduated from the University by helping to reinstate a committee maintained by our faculty senate to caretake writing proficiency." Passing over the subject-verb agreement problem in the policy statement and the fact that the chairman of the English department employs a verb, "to caretake," that does not exist in the English language, I decided to go to the English department to see if they thought all SWT graduates were indeed literate.

The watchdog committee so proudly described by the department chairman as insuring the literacy of SWT graduates turns out *never to have met.* Three separate complaints about any given student are required before action can be considered. Outside the English department, I was told, the odds are that a junior or senior student at Southwest Texas will not encounter three professors who require written work, much less three willing to turn in a student to a faculty committee for inability to do same. In any event, the committee has had no reason to meet, because no one has ever been referred to it.

At the English department I asked Professor Lois Haney, the department's liaison with the School of Education, how students are able to get through twelve hours of English without ever learning about such arcana as basic punctuation. Her answer was something I had heard before: "It is a matter of self-preservation," she told me, "not just for the profession as a whole, but for the individual teacher. I'm teaching a methods course for students who will be teaching high school English in a year or two. If I flunked seventy-five to eighty per cent of them, what would happen to my job?"

Haney told me a story about a student whose practice teaching she was assigned to oversee in an area high school. When it came time to prepare a unit on Shakespeare's *Romeo and Juliet,* the young woman found herself in some difficulty, as she had never read so much as a line of Shakespeare in high school or college, and when she tried, found she could not make heads or tails of it. She gave in to tears and changed her career plans, a heartening conclusion, actually. Supervising teachers I spoke to in Dallas told me of protracted conflicts with education professors determined not to allow a mere teacher to prevent their young charges from scoring high on their nine weeks of practice teaching, even when the prospects were so ill-educated that the brighter high school pupils reacted with incredulity and derision.

The Teacher Education and Teacher Certification divisions of the Texas Education Agency occupy two identical examples of file-cabinet architecture located along the Colorado River in South Austin, about a mile from the Capitol. Considering that Texas has been investing in public education since 1854, it is a relatively young agency, created during an overhaul of the Texas school system in 1949. In that year the Legislature abolished the statewide elected office of Superintendent of Public Instruction in a futile attempt to divorce politics from education, and created the TEA to oversee both public schools and teacher education. In theory the agency is charged with making sure the colleges produce teachers capable of transmitting knowledge in a classroom. In practice, the TEA is composed of career Educationists who shuttle between the college education departments, the school districts, and the TEA. In terms of being able, or even wanting, to do very much more about teacher competence than shuffle paper, the TEA might as well be in charge of regulating and keeping track of the genealogy of armadillos. Not only does the buck fail to stop here, it doesn't even slow down.

A case in point: the TEA is supposed to set the guidelines for, and approve, every teacher-certification program at each of the state's 63 teacher-training institutions. It uses on-campus visits, interviews, and institutional documents the colleges call "self-evaluations" in its deliberations. But the TEA has never rejected a program and never will.

In fairness to the TEA, its futility is not entirely self-imposed. Back in 1974 the agency was showing some faint stirrings of life before then attorney general John Hill handed down one of the more peculiar rulings to come out of his office. Hill decided that while Texas law clearly allowed the TEA to *approve* teacher-education and -certification programs, it did not let the TEA *disapprove* them. I leave the legal merits of Hill's opinion to learned students of the bar; practically, it left the TEA shorn of power, albeit a power it had never chosen to use. The opinion notwithstanding, I have a hard time envisioning the TEA on a crusade against teacher-certification programs. Dr. Tom Walker, director of the TEA's Division of Teacher Education, told me frankly, "As long as you have decision-making in the political arena, political pressure can determine the decision." Shutting down a college of education would draw the same reaction from the local legislator as shutting down an army base draws from the local congressman—except that the Pentagon packs more clout and once in a while gets its way.

In reality the TEA visitation is an elaborate charade in which the Educationists from the agency visit their soulmates in academia and almost invariably come away agreeing that the only thing wrong with teacher education on any given campus is that further specialization and grander architecture are in order. The TEA visited Southwest Texas State, for example, and presumably could have seen what I saw. It could not, however, have learned anything useful from reading the *1977 Institutional Report to the Texas Education Agency,* a two-volume work containing 1037 loosely bound pages of self-praise. I cannot claim to have perused every word of this weighty document, but I have read a good deal more of it than might be believed, and if there is anything wrong at the School of Education that is perceived by the administration or faculty, it does not surface in the text. The TEA likewise sees, hears, and speaks no evil. On a previous visit to Southwest Texas, the TEA found that the School of Education needed not a spanking (or better, dismantling) but a new main building, a new art building, a new student center, a new industrial arts visual aids facility, a new driver-training range (San Marcos streets apparently being inadequate), a new gymnasium, and improvements to the university farm, along with several renovations to existing structures. Total cost: $10 million. No substantive fault was otherwise mentioned by either party to the evaluation.

If the TEA can do nothing to the colleges, you say, perhaps it can see to the competence of individual teachers? Perhaps it can. At this time, however, the TEA does not have that authority and the people in charge do not want it.

All graduates are assured Texas certification by law so long as they have completed the specific education courses required. Those requirements are listed in detail in a publication of some 243 8½-by-11-inch pages called—and this will give you some idea—*Texas Education Agency Bulletin 753, Guidelines for School Personnel: Certifications, Allocations, and Records, Section I—Certification, Change 2.* Inside are the courses and degree plans required to earn certification in the many fields in which it is offered; as you can no doubt guess from its bulk, the matter is complicated to a degree one can only describe as insane. In general, the lower the grade level, the more education courses required. Nobody else on campus can pretend to offer the *subjects* taught in second grade; the Educationists have expanded into the vacuum. The same expansion has taken place in any area in which the traditional academic departments on campus have no turf to protect.

In order to teach seventh- and eighth-graders to type, for example, one needs to have had a *college course* in typing. To teach the same subject in the ninth through twelfth grades, one needs to have had that and 24 hours of "business education." Imagine, if you will, what a college course in typing would consist of. Then try to determine how much shorthand and bookkeeping a person would learn in a full year of "business education." Why shouldn't a school district judge for itself whether a prospect types well enough to teach? Included in *Bulletin 753* are copies of the forms sent out by the TEA to tell persons applying for "permanent provisional" certificates why they are deficient. A prospective teacher of vocational education may be lacking in any of 25 specific categories, plus "Other." Besides the required courses in Texas and federal government, some of those specific areas are "Aims and Objectives of Vocational Education," "Development, Organization, and Use of Instructional Materials," "History and Principles of Vocational Education," "Human Relations for Vocational Teachers," "Methods of Teaching Vocational Subjects," "Methods and Media for Teaching Vocational Subjects," "Occupational and Educational Information," "Group Procedures in Vocational Guidance," and "Shop and Classroom Organization and Management." Had enough? Then imagine yourself to be a practical-minded and idealistic youth interested in teaching high school shop.

Such tedious, detailed requirements have two fairly obvious intentions: keeping education professors in work and making sure nobody can take his or her training outside Texas, which amounts to the same thing. A more fiendishly efficient program for insuring mediocrity could not be designed.

What about testing for literacy on a statewide level, as Florida will do, starting next year? Mrs. Magnolia McCullough, who is in charge of the TEA Division of Teacher Certification, did not want me to think she was ducking the hard ones, but she passed me along to her boss, Dr. Jim Kidd, who is in charge of both education and certification. Dr. Kidd is very much aware of the problem of competency. Most of our discussion, though, was a waltz around what I came to call privately the chicken and the egg—the chicken being the *what* of teaching, the egg being the *how*. Like all Educationists, however, he prefers talking about eggs to talking about chickens. Current orthodoxy holds that no "paper and pencil test"—a phrase that pops up again and again in talking to Educationists—can determine whether a person will be a good teacher. Now, such a conclusion ought to be obvious. If one could determine a person's ability to succeed in a pragmatic art by administering a written exam, Howard Cosell would wear a helmet instead of a toupee and play cornerback for the Dallas Cowboys.

But if Howard Cosell thought a touchdown was scored by letting the air out of the football, or that a field goal was worth fourteen points, I think one could safely say his usefulness to the Cowboys would be limited. Yet the TEA does not believe in examining applicants for teacher certification because, as Kidd says, "there has been no progress in testing that can establish any positive connection between success on a test and success as a teacher. . . . We could require a B grade average but I'm not sure that would be valid or even desirable."

I did not have the University of Houston figures on hand when I spoke to Dr. Kidd, so I was not able to counter properly. After a few trips around the henhouse we did finally agree that there is probably a connection between sheer ignorance and the inability to teach, but when I left his office I did not get the impression that the TEA would be moving forward on teacher licensing exams anytime soon. The truth is that the education departments have long since carried the day, politically speaking, and that the TEA is not about to begin a pecking party it would surely lose. Despite the odd glimmer of hope here and there—the education school at UT-Austin will start examining the competence of students *before* they enter the major—the system is too far gone to reform itself. Change will have to come from outside.

Between 1967 and 1972 the TEA required the National Teacher Examination of those who planned to certify, never as a condition of certification, but as a fairly valuable indicator to anybody thinking about hiring a given individual of whether he knew what he was supposed to have learned in college. Like the SAT, GRE (Graduate Record Exams), LSAT (Law School Admission Test), and several other tests of their kind, the National Teacher Examination (NTE) is made up, administered, and scored by the Educational Testing Service of Princeton, New Jersey, a nonprofit organization that maintains regional offices in Austin. Some educators will tell you, although not for attribution, that the NTE was given up because blacks and Mexican Americans did so poorly on it. TEA officials deny that, insisting that the instrument was dropped solely because no positive correlation could ever be established between the NTE and classroom success.

As it happens, blacks and Mexican Americans as statistical groups do tend to score worse on the NTE, although as was the case with the DISD's Wesman test, individual members from all groups place from the very highest to the lowest categories. It is a fact of life that blacks and Mexican Americans score lower on all standardized instruments as the result of historical discrimination. But historical discrimination is no reason to exempt contemporary students from basic educational requirements, which, after all, are not really very difficult if insisted upon. More and more blacks and Mexican Americans are rejecting the notion that basic standards constitute cultural bias. They realize that the contention can be a form of self-imposed racism as destructive as bigotry. To use the crutch of cultural bias is to load up the schools with incompetents who cannot teach, are fearful of speaking up for themselves and their students, and who validate white superstitions about minority incapacity. The only incapacity really being protected is the Educationists'. Entrance to other professions—medicine, law, architecture, accountancy—is achieved only after passing licensing exams. Why not teaching?

When other states tried licensing exams, the National Education Association's response was predictable. It sued South Carolina for using the National Teacher Examination as one of a number of guidelines for approving or disapproving the certification of teachers. Fortunately, the NEA lost: the U.S. Supreme Court ruled in January 1978 that the NTE creates classifications on permissible bases—knowledge, skill, and ability—and that they are not used with any intent to discriminate.

The attack on the Educationists' monopoly over the public schools may have already begun. The recent session of the Texas Legislature restored the pre-John Hill authority to disapprove, as well as approve, college teacher-certification programs. The Legislature also partially heeded teachers' pleas to give the profession, not the TEA, control over certification; a new advisory board dominated by teachers will in the future make recommendations on certification programs to the TEA's publicly elected governing board, which still has the final say. Maybe teachers, who covet the status enjoyed by professions like law and medicine, will try to institute licensing tests. Maybe. Experience suggests, however, that they are more likely to seek even more protection than they already have. But Texas teacher organizations have not—as the Classroom Teachers of Dallas' resistance of the NEA position on competency testing shows—grown as defensive as teacher unions elsewhere. Indeed one of the most articulate and forceful critics of the current setup I spoke to was Harley Hiscox, a full-time organizer for the Dallas Federation of Teachers and an AFL-CIO man all the way. "I taught for twenty years in California and had a life certificate," Hiscox says, "and I couldn't get a job anywhere in Texas. I'd have to go back to school for a year at least—full time. I would need the equivalent of another MA. My wife taught fifteen years in Canada and it is taking her a year to certify. The purpose is not to get better teachers, it's to get more money, more contact hours, and bigger buildings for the colleges."

The monopoly of the education schools must be broken; there must be other paths to certification. Since teaching is a pragmatic art best learned by experience, school districts should establish apprenticeship programs for people who can satisfy the literacy requirements and show a command of subject matter. This isn't 1910, when Texas comprised thousands of tiny rural school districts that needed whatever guarantee of teacher quality the education schools could provide; this is modern, urban Texas, and the school districts are much more sensitive to demands for competence than Educationists who pick their way to class through fields of bikinis. The education schools will never improve substantially without competition. Opening up the profession would not only save money that now sustains the Educationists' empires, but could also help bring into the public schools considerable numbers of persons who chose an education over certification to begin with. It might also go a long way toward restoring the dignity of what is, after all, one of the most decent of professions. Indeed, it is only because there are so many more talented and committed public-school teachers out there than one could possibly expect from the system that produces them—so many who have gritted their teeth and persevered—that one can propose apprenticeship programs over what we have now. Every high school teacher I know at all well, and I know quite a few, would be just as appalled at the goings-on in Education 3330 as I was.

Like all proposals for reform, mine might not work as I envision it. The TEA could subvert literacy standards by setting them so low as to be meaningless. Or salaries could remain so low that schools continue to be outbid for talented people and have to fill slots with whatever they can get.

But I am sure of one thing. We have to do *something*. I believe in public schools, having never attended any other kind at any level. My elder son attends a black-majority urban public school and his younger brother will join him in the fall. Unless I grow convinced that either or both is suffering irreparable brain atrophy, I intend to keep them there through high school. I do not wish that they consort only with children whose parents can afford private schools and whose skin is the same shade as theirs. I also believe that the very future of American democracy is at stake. An illiterate or semiliterate person in our society is a kind of peasant. Peasants may or may not be happier than tax lawyers, but they cannot make intelligent choices in the world we inhabit. Another generation of the same old thing, and even the most egalitarian advocates of the public schools in Texas will come to feel as just about everybody in New York City who can afford private tuition and many who cannot do: public schools were a nice idea for *their* time, but not for their children's.◆

Solving the Problem Of Teacher Quality, Part 1

by W. Timothy Weaver

Changes in job opportunities and adjustments in career choices have affected the flow of talent into teaching and the responses of institutions of higher education. The consequences will be felt for decades to come, says Mr. Weaver.

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FEWER THAN HALF of the teacher education graduates in 1976 had Scholastic Aptitude Test (SAT) scores as high as the average high school senior's score four years earlier.[1] That was the good news. The bad news was that school districts hired these beginning teachers. Worse yet, the best of those who were hired soon left teaching.

Nor did the SAT scores of the entering college class in 1982 promise an improve-

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ment. The average scores of prospective teachers on the verbal and mathematics subtests of the SAT were, respectively, 32 and 48 points below the average scores of those who intended to enter other fields. In at least one state, a gap of more than 100 points existed on these subtests between those who intended to teach and those who did not.

Add to these findings the discovery that many teacher education programs accepted nine out of 10 applicants during the Seventies,[2] and an uninformed observer might infer that standards of any kind have ceased to exist in education.

NEW PROBLEM OR OLD?

Some individuals apparently feel that, deplorable as it might be, the present level of academic talent in teaching is nothing new – and therefore nothing to get exercised about. After all, the schools have managed to survive mediocre minds for more than a century. Why worry now?

But perhaps this is a new problem – if not in kind, then in degree. It is not at all clear that the dismal level of academic talent entering teaching of late has long been a fact of life. Indeed, data from the major scholastic testing services do not allow us to determine whether prospective teachers prior to 1970 also scored dismally. But some evidence from other sources suggests that the problem has definitely worsened *since* 1970.

Although most of the geniuses of each generation may have found other vocations, teaching has attracted some very fine minds. Prior to 1970 it was simply not true that the vast majority of new U.S. teachers in any field stood in the bottom third on measures of academic ability. But plenty of evidence suggests that this has been the case since 1970.

Let us examine the evidence from before 1970. In a study conducted in Pennsylvania for the Carnegie Foundation just prior to and during the early years of the Great Depression, W.S. Learned and Ben Wood compared test scores of teacher candidates with those of other college majors and of high school students.[3] They found that achievement and aptitude test scores were highest among students enrolled in university-based teacher education programs, next highest among students enrolled in teacher education programs at four-year colleges, and lowest among those enrolled in such programs at two-year institutions. The combined average score of sophomore education majors in all three kinds of postsecondary institutions fell below the average score of other college majors; the prospective educators ranked between the 40th and the 50th percentiles. At the senior level, the average test scores for education majors were very close to the statewide mean for all college seniors. Learned and Wood noted:

> The great majority of the seniors tested who say they expect to teach are from the arts colleges – 93% in 1928 and 78% in 1932. The average total score on each occasion is close to the mean for the entire group. Nearby in 1928 are the physicians and ministers. In 1932, owing possibly to changes in institutions represented, all the professional groups are above them – the journalists and engineers by as much as one-half sigma.[4]

In all three kinds of institutions, men preparing to become teachers (about one-third of all the education majors) had a significantly higher average test score than the college average; their performance compared favorably with that of students in other professions. However, women in education had a lower average score than their counterparts in other majors. Learned and Wood reported, "It is the low score of the women, twice as numerous as men, that brings down the average positions in both cases [1928 and 1932]."[5]

On the "progress" tests (which measure growth in achievement between the sophomore and senior years in college), the education majors outperformed the arts majors but not those students preparing to enter the professions. The performance of teacher education majors as a whole proved significantly better than the performance of high school seniors on the same exams. The median score of the total group of prospective teachers was nearly double the median score of the high school seniors; in fact, 88% of the high school seniors scored below the median score of the college group.[6]

Learned and Wood expressed disappointment at these findings. I can imagine what their reaction might be to the situation today. The National Longitudinal Study showed that 60% of high school seniors in 1972 had SAT scores higher than the median score of 1976 teacher education graduates (whereas only 12% of high school seniors in the Learned and Wood study surpassed the median score of prospective teachers as a group).

Robert L. Thorndike and Elizabeth Hagen provided evidence on the academic ability of men in the U.S. teaching force prior to 1970. They found that Aviation Cadet candidates who entered teaching after serving in the Army Air Force during World War II were clustered in the middle range of occupational groups with regard to both verbal and quantitative aptitude.[7] They also found that those who left teaching had higher scores than those who remained in the classroom. A breakdown of composite scores reflecting general intellectual abilities (reading, general information, arithmetic reasoning, and mathematics) showed that building principals, secondary mathematics and science teachers, and elementary teachers tended to be near or above the average scores of Aviation Cadet candidates (who themselves performed somewhat better than the general population of airmen). Secondary teachers of English and social studies (10% of the total teacher sample) stood about half a standard score below the mean for Aviation Cadets. Other high school teachers scored at the mean. Compared with Thorndike and Hagen's estimate of the mean test score for the general adult population, 90% of the educators among the Aviation Cadets would have been significantly *above* average. The remaining 10% would have had scores roughly equal to the mean for the adult population but below the Cadet mean.

In a separate study undertaken in the 1950s for the Commission on Human Resources and Advanced Training, Dael Wolfle collected test scores from several sources; these included freshmen enrolled in 1946 in 41 colleges and universities (not including teachers colleges), several institutional studies conducted in various years prior to 1954, and the 1951 scores on a national draft deferment test (the Selective Service College Qualification Test).[8] Wolfle's findings are consistent with those of Thorndike and Hagen, whose research covered approximately the same period. Education majors tended to cluster a few points below the mean for all college graduates, scoring at about the 44th percentile on the Army General Classification Test. Students who had majored in history, the social sciences, business and commerce, and agriculture scored similarly, while students who had majored in the physical sciences, chemistry, and engineering scored well above the mean for all college graduates.

Ronald Povalko studied teachers and prospective teachers in Wisconsin, confining his research to a sample of female high school graduates in 1957, whom he fol-

Prior to 1970 it was simply not true that the vast majority of new U.S. teachers in any field stood in the bottom third in academic ability.

lowed up in 1964 after they had attended college and been employed.[9] He found that the women who entered teaching were overrepresented in the upper one-third of the sample and underrepresented in the bottom one-third in terms of intellectual ability. He found, too, that high-ability women were more likely than others to leave the classroom. These findings contrast sharply with those of S. B. Bethune in the 1970s[10] and with those of Learned and Wood in the 1930s; both of these studies suggested that the women who were recruited to teaching were very weak academically.

As part of their study of equal educational opportunity,[11] James Coleman and his colleagues reported comparative data on the academic ability of teachers. The data consisted of test scores of freshman and senior education majors and students majoring in other fields, as well as test scores of high school seniors who planned to major in education or in other fields. The college students for the study were selected from a sample of member institutions of the American Association of Colleges for Teacher Education (AACTE).

The researchers found that, among white college students, future teachers tended to score as well as majors in other fields on tests of verbal and nonverbal reasoning, mathematics, science, social studies, and fine arts. Some regional differences existed. For example, future teachers – except in the South – had higher mathematics scores than those who were majoring in other fields, but science scores tended to favor the nonteachers. In the South, majors in other fields tended to score better in mathematics than the future teachers. On the whole, however, white future teachers at the college level proved as able academically as students in other fields. Among black college students, by contrast, the academic superiority of nonteachers over future teachers was substantial. In their summary of the findings on the high school seniors, the researchers stated:

> If we raise . . . the question of how [future teachers] at the 12th-grade level compare with their classmates of the same race and region, there is some indication that they are slightly above the typical student in academic performance and commitment.[12]

By contrast, my own research, Bethune's work, and that of Phillip Schlechty and Victor Vance have shown that young people recruited to teaching after 1970 have been well below the typical high school senior and college student in academic performance. Moreover, among those who eventually enter teaching, the most intellectually able are the least committed.[13]

The findings on academic ability, which date back to 1928, suggest an ebb and flow in the level of talent attracted to teaching. If Learned and Wood are correct, unusually bright men were preparing to teach during the early years of the Depression – but women of similar talent were not. In the years following World War II, men of average academic talent or above entered teaching; of these, the brightest soon left the classroom for better opportunities either within education or outside it. By the 1960s, if Wisconsin is representative, women at or near the top of the ability curve were attracted to careers in teaching, although the brightest of them soon left the classroom. Meanwhile, the data since 1970 show a decline in the level of academic ability among both men and women who have been attracted to teaching.

The ebb and flow is simply a case of talent following opportunity. During the Depression, for example, school officials preferred to hire male teachers, and many very bright men earned teaching certificates. During this era the employment opportunities in other fields were extremely limited for men with college degrees, and teaching seemed enticing by contrast. World War II changed all of that. During the period covered by Povalko's study, men could find better employment opportunities outside the classroom. Meanwhile, the 1970s and early 1980s have been characterized by extremely limited opportunities in teaching for both men and women; not surprisingly, during this interval the field has attracted individuals of limited academic talent.

TALENT AND OPPORTUNITY

Using the Coleman data, and especially the reanalysis of that data by Eric Hanushek,[14] Henry Levin estimated the cost diffferences that would arise from recruiting and paying for experience versus academic talent in the hiring of teachers.[15] Levin's analysis is significant for several reasons. First, his finding on the correlation between ability and attrition among newly recruited teachers is consistent with the finding of Thorndike and Hagen. Levin noted, "The stock of teachers with three years or more [of] experience shows significantly lower test scores than those with less than three years [of] experience."[16]

Second, Levin directly confronted the issue of the relationship between teachers' ability and students' learning. He noted that each additional point scored by teachers on the SAT verbal subtest adds .175 points to the verbal scores of black students and .179 points to the verbal scores of white students. Clearly, teachers' intellectual abilities have implications for both excellence and equity in education.

Levin argued that the brightest teachers leave the classroom because talent flows toward opportunity – an argument that I find very convincing. He said:

> This finding is consistent with the fact that the schools do not reward such proficiencies [verbal ability] while other employers do. It seems reasonable that this . . . could be reversed by a more competitive salary policy, one that did account for the teachers' verbal facilities.[17]

Levin estimated that it would be 10 times more cost-effective to spend funds on recruiting and retaining verbally proficient

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teachers than to use the money to pay for years of experience in the classroom, given that the desired outcome is better student achievement.

More than common sense supports Levin's conclusion. Thorndike and Hagen[18] found that a majority of those individuals who left teaching did so because they were attracted to higher-paying opportunities, not because the conditions of teaching were unsatisfactory (although that may also have been the case). In response to the question, "What do you feel would be most important in getting men into education and keeping them there?," 90% of these educators stressed financial considerations. Next in importance, but well down on the list, were classroom conditions (crowding, materials, noninstructional duties) and status. Opportunities for promotion were still farther down on the list.

Those who had already left teaching said that the primary factors in this decision were low pay and opportunities for good jobs outside of teaching. Lack of opportunities for promotion within teaching ran a poor third as a reason for leaving. Indeed, pay was the overwhelming source of dissatisfaction both for those who remained in the classroom and for those who left.

These findings were reaffirmed more than a decade later (1982) in a study of Connecticut teachers by D. C. Turk and M. D. Litt.[19] The Connecticut teachers were dissatisfied with many aspects of teaching, but the precipitating factors that led some of them to actually change their occupations appeared to be higher pay and better opportunities outside the classroom. Turk and Litt found, for example, that 76% of the teachers in their survey mentioned "insufficient salary" as the reason they intended to leave teaching. The next most frequent reason, cited by 46% of the sample, was "poor opportunity for advancement."

Money is not the only thing that causes talent to flow away from teaching, but salary differentials among occupations do play an extremely important role. It seems axiomatic to economists — but is apparently less clear to educators — that, when such talents as verbal proficiency or arithmetic reasoning are financially rewarded by employers outside the schools but not by the schools themselves, individuals with those talents will tend to move away from teaching.

THE ACADEMIC LABOR MARKET

As Richard Freeman has shown, the labor market for teachers behaves in many respects like all labor markets.[20] When employers have ample hiring choices, wages fall; when the number of jobs exceeds the number of available workers, wages rise. This market dynamic affects both institutional and individual behavior. Talent will ultimately flow toward opportunity.

The job market for teachers absorbed approximately 25% of all college graduates in the 1960s. But when the market for teachers dried up at the end of that decade, graduates in the humanities, the arts, and the sciences — who previously might have become teachers with only minimal additional preparation in education — suddenly found that few school districts were willing to hire them. Meanwhile, education majors also found their employment alternatives reduced when the government cut back on employment opportunities.

This general reduction of employment prospects for college graduates with both school districts and the government dramatically influenced wages — and thus the returns afforded by investing in a college education. According to Freeman, the net effect was that students who were headed for college began to shift their majors to fields not suffering retrenchment. A change in the composition of the college-bound population also occurred; a smaller proportion of white males now attended, but more women and minorities were enrolled.

The effect on schools and departments of education was dramatic. The proportion of college-bound students choosing to major in teacher education fell from a peak of 24% in 1969 to fewer than 5% in 1982. This response is not without precedent in other fields; for example, enrollments in engineering declined by almost one-third in the aftermath of the 1969-71 glut in the job market for engineers.

The lesson to be learned is that changes in job opportunities and concomitant adjustments in career choices inevitably affect both the flow of talent and institutional responses. As a general rule, when their survival is at stake, academic departments will respond by redefining their admissions standards — and sometimes by abandoning them completely, except for rhetoric. The flow of talent away from declining fields, combined with institutional responses of this type, produced the decline in academic quality that we witnessed in education and the humanities during the 1970s.

A SIMULATION

To better understand the dynamics of the job market and of the talent flow in education, we developed a computer model at Boston University to simulate conditions of teacher supply, demand, and quality.[21] One of the most important issues that the computer model examined was the conflict that exists between conserving the talent of students and conserving the jobs of professors. The model was designed on a fundamental premise: an education system must compete for and conserve student talent under conditions in which opportunities for the talented are dynamically changing and are open to individual choice.

Money is not the only thing that causes talent to leave teaching, but salary differentials among occupations do play an extremely important role.

The computer model also reflects the premise that both the talented and the untalented will try to capitalize on such opportunities as arise. In other words, the most talented students will seek entrance to the fields affording the greatest career opportunities — but so will the least talented. However, fields enjoying high demand in the job market will have their pick of students, and those who lack talent will not be admitted. They will be forced instead to select less attractive fields, and those who provide training in such fields will be forced to accept them or go out of business.

The computer model generates behavior that more or less conserves talent — but within a system in which counterpressures to conserve institutional resources other than talent constitute the highest priority. For example, when job opportunities in teaching are scarce relative to other careers, the talent flow, as represented by the choices students make, will be away from teacher education. Institutional responses may then have the effect either of reducing or of increasing the conservation of talent. Empirical evidence suggests that in situations in which the choices are "poor students" or "no students," faculty members will choose the former as the lesser of two evils.

When applications for admission began to drop in the 1970s, schools and departments of education faced a choice. They could have chosen to admit only those applicants at the upper end of the distribution of test scores, but they did not. And, by not rejecting the less able applicants in the 1970s, schools of education helped to create two disasters and to avert a third. They produced a glut of teachers,

> **High standards for admission to teacher education and high standards in hiring teachers are potential solutions, but they pose many problems.**

along with attendant hardships on the teaching profession in the form of lower salaries and, eventually, teacher education graduates with embarrassingly little academic ability. The disaster they averted – in the short term, at least – was their own extinction.

But survival that stemmed from abandoning standards created a vicious circle. Annual flooding of the teacher job market reduced job prospects and drove down the attractiveness of teaching as a major for college-bound high school seniors. As fewer of these youngsters chose to major in education, schools and departments of education had to lower their admissions standards still further to offset this loss of applicants. This vicious circle produced a succession of classes of teacher trainees, always larger in number than the job market could absorb but also characterized by ever-lower academic ability.

Clearly, the conditions I have documented (and subsequently replicated, using the Boston University computer model) do not serve the best interests of the public. The consequences last for a long time, and they cost a great deal. Consider, for example, the cost of producing 1.5 million unneeded teachers during the past decade – to say nothing of the hidden and less direct, but more serious, cost of depleting the talent pool in teaching.

When I say that the consequences are long-lasting, I am referring to *decades*, not years. The dynamic adjustments from the point of first disrupting the computer model to its point of recovery require at least 20 years. Historical data and other kinds of projections reaffirm this finding. Without intervention, it takes the system a fairly long time to respond to imbalances in supply and demand and to the subsequent flight of talent. Without intervention, the most likely scenario for the future involves a continuing boom/bust cycle in teaching, following demographic cycles of growth and decline and accompanied by long periods of declining quality and by slow recovery. Since a loss of talent to the system is an undesirable and long-lasting side effect of this boom/bust cycle, the importance of policy intervention seems quite clear.

Let us examine next the "traditional" view of the problem of teacher quality and some proposed remedies. With James Koerner's frontal assault in the 1960s on teacher education,[22] the literature took what many observers perceived to be an irreverent turn. But Koerner's ideas, which continue to influence many contemporary reform proposals, deserve reexamination.

TRADITIONAL REMEDIES

Koerner's assault focused primarily on the poor intellectual quality of education faculties, courses, and students, when these are judged by traditional academic standards. The qualitative shortcomings that Koerner perceived included puerile course content in education, professors who were ill-trained in academics and thus unable to teach academic materials effectively, excessive specialization, redundant courses, the poor teaching performance of professors of education, and inadequate academic requirements. Koerner was skeptical about the value of any methods course other than student teaching. And his general view was that these shortcomings were even more pronounced at the graduate level.

Koerner maintained that the preparation of teachers and other school personnel, as carried out by education faculties, did not meet the standards set by such other professions as law and medicine. He also believed that, until education began to behave like those other professions, it should be granted no more status and compensation than it already received – which was perhaps already more than it deserved. Because of poor-quality schools of education and their faculties, low academic standards, and intellectually inferior students, Koerner said, teaching was not considered a profession. Moreover, judging from the level of talent among teachers, the quality of their preparation, and their workload, their salaries were about as high as they ought to be.

Koerner proposed to remedy these problems by promoting higher admissions standards, requiring prospective teachers to major in academic subjects, greatly reducing the number of specialties offered by schools of education (especially at the graduate level), and imposing standards at the graduate level that were similar, if not identical, to those required of arts and sciences graduates. He endorsed only minimal preparation in pedagogy.

The most significant remedy that Koerner proposed for improving the quality of teachers was a system of qualifying examinations. These examinations would screen out the academically inferior, give school boards a justification for paying higher salaries to competent teachers, and open the teaching profession to individuals not trained in schools of education.

To improve classroom practice, Koerner recommended extended apprenticeships. Meanwhile, with regard to academic training, his position was that more is better – and that secondary teachers should be thoroughly trained in the disciplines they teach.

For two decades other critics have echoed Koerner's sentiments, but only infrequently have these echoes produced action – until recently. Let us assume that Koerner's criticisms of education were, and still are, absolutely correct. Does it follow that his proposed remedies will be effective?

I do not take particular exception to Koerner's analysis of the problems of education or even to his polemics. But I believe that he failed to understand the fact that the education system is also a labor market and thus subject to the forces that drive all such markets. Koerner's argument – that only higher-quality preparation and higher-quality candidates can justify higher salaries for teachers – is a sound one, but it fails to take into account the dynamic pressures that worked to change the conditions he was writing about, even before the ink was dry on his book. Demographic and labor market forces, already at work in the early 1960s, would soon drive up teacher salaries and attract to the field the liberal arts majors that Koerner so [illegible]. But he failed to see (or, at least, to write about) this process.

Consider the following. By 1970 salaries of U.S. teachers had risen at a rate *exceeding* that of salaries paid to other workers in the economy. Moreover, the average academic quality of individuals attracted to teacher education equaled that of any random sample of students entering four-year colleges. By 1980, however, the relative salaries of teachers compared with those of other professions had fallen well below their 1970 levels. By 1980 the academic quality of students attracted to teaching was also significantly below the 1970 level – and below that of the average four-year college student in 1980, as well.

These events had nothing to do with the remedies that Koerner proposed, because none of his remedies were implemented. In fact, the Master of Arts in Teaching (MAT) program favored by Koerner disappeared completely, once the teacher shortages had evaporated. The vast majority of teacher preparation programs did not dispense with education requirements for undergraduates. Even the widespread use of teacher examinations postdated this period.

The kind of prescriptive wisdom that Koerner and his present-day admirers offer is appealing and often cogent, but it fails to address the underlying causes of declining academic quality. Academic quality is a function of the dynamics of supply and demand in the total education labor market. Moreover, given the way that this labor market behaves as a dynamic system, the actions that policy makers have generally been urged to take — and, in some cases, have taken — are precisely wrong.

THE NEW JERSEY PROPOSAL

If the governor and the commissioner of education of New Jersey have their way, teachers in that state will be able to ignore education as a college major.[23] To be a teacher in New Jersey, an individual will need only a college degree, a passing score on a test of the subject matter to be taught, and completion of an internship in a school. No education courses will be required; presumably, individuals who take such courses will not be barred from New Jersey classrooms, however.

I do not think that the New Jersey plan will bring a greater number of academically able individuals into teaching. My conclusion has nothing to do with the arguments that opponents of the plan are now making. I think that the plan will fail because it assumes, as Koerner did 20 years ago, that high-quality liberal arts graduates in New Jersey and elsewhere will choose to teach at salaries and under working conditions that caused the same high-quality students to reject education as a major in the first place.

It might seem that talented liberal arts students rejected education as a major not because jobs in teaching are scarce and salaries low, but because they were repelled by the very things Koerner wrote about: puerile course content, poorly prepared professors, excessive specialization, redundant courses, poor teaching by professors, inadequate academic standards, and all the rest. But I think not. In the end, the academic quality of liberal arts graduates who seek teaching careers in New Jersey will reflect two things, neither of which has anything to do with the quality of teacher education: namely, 1) the talent of college-bound students who four years earlier entered (and remained in) the liberal arts, during a period when talent was fleeing from the liberal arts into the applied sciences; and 2) the kinds of careers other than teaching that are open to these liberal arts majors when they graduate. I think it is safe to predict that the level of talent that New Jersey schools will pull from the pool of liberal arts graduates will be roughly equal to the level of talent already available among New Jersey teachers.

The New Jersey plan is self-defeating because it would instantly expand the potential number of candidates in the teacher job market. Thus its effect — if we can trust the basic laws of supply and demand — will be to reduce wage offerings. If talent flows toward opportunity, the "opportunity" created by the New Jersey plan will attract little talent. Salary is the single most important factor in attracting talent to any field. Any plan that further reduces already-low salaries, as this plan threatens to do, will in the long run worsen the situation it is intended to improve. I do not oppose the New Jersey plan. I simply do not hold much hope that it will solve the problems of teacher quality in New Jersey or elsewhere.

ALTERNATIVES FOR REFORM

Of the reforms that have been widely discussed as remedies to the problem of teacher quality, the most direct measure would be the construction of barriers to teaching similar to those already in use in medicine and law (a point made by D. B. Waldo of the Kalamazoo State Normal School in 1919 and reiterated by reformers during each of the six decades since).[24] High entrance standards for admission to teacher education and high standards in hiring teachers *are* potential solutions, but they pose many problems.

The consequences of these solutions are highly complex and counterintuitive. The immediate raising of standards at either point (admission to college or to teaching) demands a consensus on appropriate standards that does not currently exist. Even if that issue were to be resolved, the political and economic effects of restricting entry to teaching would be far-reaching; indeed, many school boards might be forced into bankruptcy in an effort to compete for qualified teachers. At the very least, one inevitable outcome would be a much higher bill for the taxpayer. How much higher would depend on the restrictiveness of the entrance requirements.

For this reason, only courageous politicians would be able to stand firm on policies restricting entry to teaching — especially in the face of severe teacher shortages, rising salaries, competitive wage bidding among districts, and rising school taxes. The odds do not favor such courage.

Not surprisingly, money is the key. If we really mean to attract the best talent into teaching, the price will be high. Boston's largest law firms offered 1983 law school graduates salaries that ranged from $30,000 to $40,000, for example. As a standard of comparison (albeit a high one), these starting salaries for attorneys were double those earned by the average U.S. teacher after a decade or more of classroom experience.

I do not offer this example to demonstrate the absurdity of such comparisons, but to put the problem of teacher quality into perspective. If the public schools are to compete for the most talented individuals produced by U.S. colleges and universities, the schools must expect to pay the highest wages that such talent can command. Under any but the most utterly unimaginable circumstances, however, cities and states will neither choose — nor be able — to afford a free school system that competes for that level of talent.

The Boston University computer model shows that raising the entrance standards in teacher education has one of the desired effects. It limits the decline of talent in education by refusing admission to those individuals who score below an established cutoff point (defined for our study as an SAT score equal to the average SAT score of all students seeking admission to college). But education faculties will not endorse higher entrance standards enthusiastically, because such a policy would cost them their jobs. At the least, education faculties and administrators can be expected to resist higher standards as violations of academic freedom. Academic institutions should retain control over the admissions process, they are likely to argue.

Thus the issue of higher entrance standards can be expected to elicit debate (and, indeed, already has) on matters that many observers view as more important than the original objective. For this reason, higher entrance standards may be an important initiative to consider. But the time required to produce a consensus

Consider the fact that the requirements of a public school system do not begin to define the teaching requirements of any society.

on new standards could delay action on this matter until well into the 21st century.

Meanwhile, restricting entry to teaching jobs through qualifying examinations *after* graduation from college also seems a reasonable means of preserving talent in teaching. But the Boston University computer model shows that this action would only hasten the erosion of academic quality in education. This is the case because schools of education would graduate some teachers who could not be hired because of their low scores – a fact that would further reduce the attractiveness of education as a potential major. Admissions standards would fall in response, while school districts would find it impossible to fill vacancies in their classrooms. Under the conditions imposed by our computer model, districts could hire only those teacher education graduates whose scores on the qualifying examination equaled that of the average college freshman. This standard would have restricted school boards' choices to about one-third of all education majors who graduated and entered the job market in 1983.

Two outcomes might be expected: 1) serious temporary shortages of qualified teachers, which could be offset (under the hypothetical conditions established by the computer model) only by a 50% increase in class size; and 2) an upsurge in competitive wage bidding by school districts for qualified job applicants. The first of these effects is unlikely to be politically acceptable; the second is likely to fail on both political and economic grounds, given taxpayers' attitudes (reflected in state-mandated tax caps in California, Massachusetts, and elsewhere).

Examinations for new teachers may become a reality – but with cutoff scores that can be adjusted to the level of talent in the test-taking pool.[25] In other words, testing as a condition of employment may become widespread, but the failure rate is unlikely to be high enough (after the first year, at least) to improve the academic quality of the teaching force. This is true because restrictive cutoff scores will produce counter-pressures that will drive the cutoff scores toward the level of ability of those being tested.

Regulations that use test scores to restrict entry to classroom teaching jobs without simultaneously restricting admissions to schools or departments of education will only deepen the very problem that they are designed to solve. If states are going to take the testing of new teachers seriously, then the institutions that train candidates who fail the tests must be held accountable. Accountability might involve an annual report to the public on the success and failure rates of each college and university that graduates prospective teachers who take the tests. Institutions with high success rates would attract new students who plan careers in teaching; institutions with high failure rates would suffer the consequences.

Restricting entry to teaching jobs, though perhaps desirable, is not feasible. Such regulatory action would cost a great deal in the form of political conflict; it would also consume vast amounts of management resources. Meanwhile, it would try to correct the problem of teacher quality through complicated government actions while ignoring private motives and powerful market forces. We would be better off devoting our efforts to interventions that reflect an understanding of the dynamics of the problem.

Changes in certification that lengthen and intensify teacher preparation will prove more acceptable politically and economically, but such changes are also more likely to produce weak effects – or no effects at all (as both history and the Boston University computer model demonstrate). Certification may determine teachers' qualifications on paper, but the real problem of teacher quality has its roots elsewhere. Attempts to solve that problem must stem from an understanding of the interplay between talent and opportunity in an open society.

Individuals who are attracted to a career that ranks in the bottom third, in terms of economic rewards, turn out to be individuals who are themselves in the bottom third, in terms of scholastic ability. Changes in certification requirements will not affect this situation. That remedy has not worked in the past, and it will not work now. Yet it seems inevitable that states will tighten certification requirements in response to pressures to restrict the supply of teachers. The effect may be to reduce the supply of teachers temporarily, but college graduates will ultimately end up in the teacher job market – this time having made an even larger investment in preparation for classroom teaching. Tightening certification requirements also reinforces the tendency of schools and departments of education to elaborate and enlarge the very programs they need the least.

A LONG-TERM SOLUTION

A more permanent solution to the boom/bust cycle in education and to its detrimental effects on teacher quality lies in a redefinition of the mission of schools and departments of education. I will take up this point in more detail in Part 2 of this article, to be published in the November *Kappan*. Merely consider, for now, the fact that schools and departments of education have existed primarily, if not entirely, to train teachers and other specialists for work in the schools. If this were not the case, the decline in the number of education majors would not have been an inevitable outcome of the decline in job opportunities for teachers.

Efforts to regulate this situation have not solved the problem. Instead, they have made it worse by reinforcing the dictum that, if the U.S. does not need schoolteachers, there is no reason to enroll in a school or department of education. That dictum, of course, is preposterous, because the requirements of a public school system do not *begin* to define the teaching requirements of any society. Even as the market for schoolteachers shrinks, the major U.S. corporations are investing billions of dollars in educational activities ranging from the development of employees' technical skills to seminars for executives. And that corporate investment is constantly growing.

How would a redefined mission – one that takes into account the educational process in institutions other than schools – affect the talent pool for public school teaching? I will return to this and other questions in Part 2.

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1. For additional details, see W. Timothy Weaver, *America's Teacher Quality Problem: Alternatives for Reform* (New York: Praeger, 1983), Chs. 2, 3.
2. A comparison of American College Testing (ACT) Program scores of college-bound seniors in 1969 and 1974 with freshman enrollments in education one year later suggests that selection standards had deteriorated over the five-year interval. A comparison of data from the National Longitudinal Study with test scores from the college-bound population in the U.S. shows education to be the least selective field of all the major fields for which data are available. My own case studies of education programs in 19 colleges and universities suggest that these institutions had virtually abandoned admissions standards during the 1970s. For details, see Weaver, Ch. 2.
3. W. S. Learned and Ben D. Wood, *The Student and His Knowledge: A Report to the Carnegie Foundation on the Results of the High School and College Examinations of 1928, 1930, and 1932* (New York: Carnegie Foundation, Bulletin No. 29, 1938).
4. Ibid., p. 333.
5. Ibid.
6. Ibid., p. 340.
7. Robert L. Thorndike and Elizabeth Hagen, *Ten Thousand Careers* (New York: Wiley, 1959).
8. Dael Wolfle, *America's Resources of Specialized*

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9. Ronald M. Povalko, "Recruitment to Teaching: Patterns of Selection and Retention," *Sociology of Education*, vol. 43, 1970, pp. 340-55.

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11. James S. Coleman et al., *Equality of Educational Opportunity* (Washington, D.C.: U.S. Government Printing Office, 1966).

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14. Eric Hanushek, "The Production of Education, Teacher Quality, and Efficiency," in *Do Teachers Make a Difference?* (Washington, D.C.: U.S. Government Printing Office, DHEW OE 58042, 1970).

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16. Ibid.

17. Ibid.

18. Robert L. Thorndike and Elizabeth Hagen, *Characteristics of Men Who Remained in and Left Teaching* (Washington, D.C.: U.S. Office of Education, Cooperative Research Project No. 574, SAE 8189, 1960).

19. D. C. Turk and M. D. Litt, "Stress, Dissatisfaction, and Intention to Leave Teaching Among Experienced Connecticut High School Teachers," report to the Connecticut Department of Education, Hartford, June 1982.

20. Richard B. Freeman, *The Over-Educated American* (New York: Academic Press, 1976).

21. Weaver, *America's Teacher Quality Problem* . . ., Ch. 1.

22. James D. Koerner, *The Miseducation of American Teachers* (Boston: Houghton Mifflin, 1963).

23. *An Alternative Route to Teacher Selection and Professional Quality Assurance: An Analysis of Initial Certification* (Trenton: New Jersey Department of Education, 1983).

24. D. B. Waldo, "Societies and Meetings, the National Education Association, How to Secure an Adequate Supply of Trained Teachers for the Public Schools of the United States," *School and Society*, September 1919, pp. 299-300.

25. See, for example, "Louisiana to Ease Teacher Shortage by Lowering Test Scores," *Education Week*, 6 June 1984, p. 6. □

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RESEARCH

Teacher Preparation and the Teacher Workforce: Problems and Prospects for the 80s

Reprinted from *American Education*, March 1983, the magazine of the U.S. Department of Education.

How can we attract and retain the best and the brightest for teaching? An NIE researcher highlights some of the problems and proposed responses.

By Gary Sykes

Concern about the quality of education today frequently focuses on the teacher. Policymakers and the general public worry over who is entering teaching, how well qualified the student teachers are, how adequate their preparation has been, whether veteran teachers are committed to their work, whether a teacher shortage looms, and what the future holds for the profession. These concerns are most acute in mathematics and science teaching, but go beyond this critical area as well. This paper draws together evidence on these issues, highlighting some of the problems and discussing the responses to them.

Two subjects—the teacher workforce and teacher preparation—will be featured. It is anticipated that the profession will face some questionable prospects late in the twentieth century, although many of today's problems are similar to those of the past. However, if our school systems are to have the teachers required to fulfill education's basic mission, problems of recruitment, selection, training, and rewards must be addressed through public policy.

Academic ability, entry and retention in teaching

Attracting the most attention has been the issue of who enters and stays in teaching. In particular, concern has focused on the academic ability of new recruits. Evidence on this question is compelling but not decisive.[1] As Table 1 indicates, the SAT scores of undergraduate education majors are low relative to other majors and have declined more than the national average. From 1973 to 1981 SAT verbal scores for prospective education majors dropped from 418 to 391, a loss of 27 points, while SAT math scores fell from 449 to 418, a 31 point drop. (The comparable national averages: verbal scores dropped from 445 in 1973 to 424 in 1981, a 21 point slide; math scores over this period declined from 481 to 466, a 15 point drop. In 1982 both the national average and scores for prospective education majors rose a point or two from their 1982 levels). Score declines among new teaching reruits, then, have been somewhat steeper than the overall decline, but the differences are modest, typically accounted for by no more than several items on the test. However, education tends to rank near the bottom of college majors on a variety of measures: the education field ranked lower than the six other college majors on the SAT scores; of 19 fields of study reported by the American College

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Testing Program, education was tied for 17th place in math scores, and 14th place in English scores. Among graduating seniors in the National Longitudinal Study sample, class of 1972, education majors ranked 14th among 16 fields on SAT verbal scores; on the SAT math test, they ranked 15th.

Finally, three other pieces of evidence add to this depressing litany: 1) the Graduate Record Exam verbal and nonverbal test scores among education majors have declined significantly since 1970, and were substantially lower than scores of majors in eight other professional fields compared in 1975–76; 2) National Teacher Examination scores also declined significantly during the 5-year period from 1969–70

Table 1. Scholastic Aptitude Test (SAT) scores and intended areas of study of college-bound seniors: 1973 to 1981

Intended area of study	1973		1975		1977		1979		1981	
	Verbal mean	Math mean	Verbal mean	Math mean	Verbal mean	Math mean	Verbal mean	Math mean	Verbal mean	Math mean
National	445	481	434	472	429	470	427	467	426	466
Art and humanities	—	—	—	—	444	460	436	452	434	453
Architecture/ environmental design	438	515	430	507	425	505	418	495	414	489
Art	440	451	435	445	412	425	404	421	403	421
English/literature	500	481	488	465	504	478	505	478	507	482
Foreign language	491	498	481	486	481	483	475	476	474	477
Music	465	487	448	464	445	463	437	456	435	454
Philosophy and religion	479	500	469	484	467	487	465	482	463	481
Theater arts	—	—	—	—	447	438	437	433	439	436
Biological sciences and related areas	—	—	—	—	438	479	435	472	433	472
Agriculture	427	471	423	459	418	457	408	443	404	440
Biological sciences	493	533	481	525	475	515	472	507	471	504
Forestry/conservation	—	—	—	—	426	467	420	456	418	452
Health and medical	—	—	—	—	433	474	430	469	428	469
Nursing and health	419	444	410	444	—	—	—	—	—	—
Business, commerce, and communication	—	—	—	—	412	454	408	448	406	446
Business and commerce	409	463	406	461	402	453	400	447	398	446
Communications	476	483	458	461	459	460	448	449	443	446
Physical sciences and related areas	—	—	—	—	454	549	448	535	443	527
Computer science/systems analysis	—	—	—	—	422	505	419	498	416	492
Engineering	460	548	450	541	448	546	445	536	446	534
Mathematics	481	595	463	580	464	588	459	580	456	572
Physical sciences	505	570	501	565	500	572	498	561	498	558
Social sciences and related areas	—	—	—	—	432	453	429	449	429	449
Education	418	449	405	434	400	426	392	420	391	418
Ethnic studies	—	—	—	—	381	396	372	386	381	395
Geography	—	—	—	—	421	473	438	481	422	474
History and cultures	—	—	—	—	478	474	478	471	482	472
Home economics	413	441	409	442	399	428	389	417	383	411
Library science	—	—	—	—	478	453	476	448	464	431
Military science	—	—	—	—	435	489	434	481	433	474
Psychology	—	—	—	—	444	455	435	447	433	447
Social sciences	476	490	465	476	456	474	455	472	456	474
Miscellaneous	—	—	—	—	431	473	420	456	420	459
Other	—	—	—	—	422	458	396	430	395	431
Trade and vocational	400	450	370	405	357	400	353	394	350	391
Undecided	—	—	—	—	448	491	441	480	440	480
Other/undecided	446	489	438	477	—	—	—	—	—	—

NOTE: 1973 and 1975 data are based on a 10 percent random sample.
Dash (—) indicates data not available.

SOURCE: Educational Testing Service report by Rex Jackson, *A Summary of SAT Score Statistics for College Board Candidates*, Admissions Testing Program of the College Board, *National Report, College-Bound Seniors, 1979, 1981*, and unpublished tabulations of the College Board.

to 1974–75; and 3) the cumulative grade point average for education majors ranked 12th out of 16 (education majors: 2.72; average: 2.97).

In short, a mass of evidence converges to show that academic ability of education majors is both low and declining. Teaching appears to attract the least academically able and to be decreasingly attractive.

How to interpret this evidence? Two questions are worth asking. Does this trend represent something new in the historical development of teaching? And why has this trend occurred? The low academic ability of teachers appears to be a historical fact, intensified by several recent developments. Education majors have always ranked low on measures both of academic achievement and of ability or intelligence. For example, one of the first studies bearing on this question examined the intelligence and scholastic achievement of over 45,000 Pennsylvania high school and college students in 1928, 1930 and 1932.[2] Standardized test scores of students in education were lower than those of any other major. Other findings revealed that the median IQ score for 26,000 unselected high school seniors was higher than the median for seniors in education at one college, for education graduates of another college, and for the graduates of two-year certificate programs at two other teachers' colleges. Upon putting together all the findings, the study authors concluded that "[teachers] have inferior minds."

In 1951–53, nearly half a million college men took the Selective Service College Qualification Test, an intelligence test with both "verbal" and "quantitative" items, in order to determine their draft status. Education majors scored lowest in every grade each year the test was given.[3] Similar trends appeared in a third major study reported in 1954.[4] This study tabulated scores for a sample of 10,000 college graduates at more than 40 American colleges and universities. Education majors graduating with bachelor's degrees ranked 17th among 20 major fields. In short, the conclusion James Koerner came to in his 1963 study of teacher education seems quite durable: "By about any academic standard that can be applied, students in teacher training programs are among the least able on the campus. . . ."[5]

A number of recent developments have exacerbated this longstanding problem. The women's movement and economic pressures on women to work have led to an expansion of career opportunities for professional women in such formerly male-dominated occupations as law, business, medicine, and even engineering. Some evidence indicates that in the past teaching did attract academically able women,[6] but today the best and brightest head for law or business school, careers formerly closed to women. Supply and demand in the teacher labor market has also deterred students from considering teaching as a career. While teacher shortages marked the '50s and jobs were readily available in the '60s as well, the '70s witnessed a surplus of teachers in the face of declining student enrollments. Teaching has traditionally absorbed a sizable fraction of the college labor force, especially among women, but in the late '70s the number of undergraduate education majors began to drop[7] (see below).

These are probably the most significant reasons for the recent decline in the quality and quantity of teacher candidates, but other factors have contributed. In the face of low salaries, diminished public esteem, reductions-in-force, and reports of violence, vandalism, and turbulence in the schools, teaching no longer appears to be an appealing career, particularly in urban school systems and at the secondary level, where student unrest poses the gravest threat to teachers. Furthermore, faced with declining enrollments, some schools and colleges of education have probably been guilty of lowering their entrance standards and this system-wide response has further depressed the academic quality of the teacher pool.[8]

Finally, socialization effects in colleges and universities tend to steer bright students away from teaching: professors in academic disciplines such as mathematics, English, history, or chemistry are unlikely to encourage their prize students to become elementary and secondary teachers.[9]

In sum, teaching never enjoyed a golden age when the best and the brightest entered the ranks. However, teaching until recently was a reasonably attractive career for women and did draw the academically able among them. Labor market conditions and other developments have altered the relative attractiveness of teaching so that today there is cause to be concerned about the academic quality of those entering teaching.

Turning next to the question of retention, what do we know about who remains in teaching? Traditionally, teaching has been a relatively casual occupation, easy to enter and re-enter, and marked by frequent breaks in service. Evidence indicates relatively high rates of attrition within the first few years of teaching,[10] with married women leaving to have children and returning when their children attend school. What effect, though, does attrition have on the quality of the teacher workforce? Do the least committed and least well-suited drop out? If this were the case, it would be beneficial to the overall quality of teaching. On the other hand, do the most able and ambitious leave teaching for educational administration or careers elsewhere? This would be harmful to the talent pool. Both contentions have been made, but the evidence ranges from inconclusive to nonexistent.

Two studies, however, suggest that academically able teachers may be likely to leave teaching soonest. One study tracked a sample of graduates from Wisconsin high schools from 1957 to 1964.[11] Of the 437 women in this sample who became teachers, the majority (62.7%) completed a bachelor's degree and entered teaching in 1961, an additional 26.3% graduated from two-year teachers colleges and likely began teaching in 1959, while 11% went on to graduate school and so had at most one to two years of teach-

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ing experience. The study included a test of measured intelligence and these results were reported in 1964:

Table 2. 1964 Work Status of All Women Who Became Teachers

Measu[illegible] Intelligence	Teaching	Not Teaching	Number
Low	72.9%	27.1%	48
Medium	56.7	43.3	141
High	59.3	40.7	248
TOTALS	60%	40%	437

This table reveals a number of interesting facts: attrition after two to five years of teaching is high (40%); this sample of women who entered teaching were of high intelligence; and the least intelligent teachers were most likely to be still teaching.

A second piece of evidence from another state and another period of time confirms this pattern of attrition by ability. This study arrayed attrition rates with National Teacher Examination (NTE) common scores for all teachers in North Carolina between 1973 and 1980.[12] A part of one table of this study graphically portrays the general finding:

Table 3. Cumulative Retention in Education White Females

Overall Mean NTE Score: 610

Rank	1	2	3	4	5	6	7	8	9	10	TOTALS
Mean NTE Score for Rank	736	687	661	638	617	597	575	553	526	479	
Number Remaining in Teaching in 1980	94	120	134	137	147	156	190	147	146	140	1,381
Cumulative Retention in %	37	46	46	48	55	57	58	58	58	62	53

The top row arrays NTE scores in ten ranks from high to low. The bottom row displays the percent of white female teachers starting in 1973 who were still teaching in 1980, for each of the ten ranks. The pattern is startlingly consistent: the higher the NTE score, the less likely the teacher is to be teaching seven years after beginning. The study reported similar results for males and for Black teachers in this sample. Drawn from time periods nearly 15 years apart, these studies converge in suggesting a significant tendency for the most academically able teachers to leave teaching the soonest.

A clear pattern emerges from these and other studies. In teaching, the processes of recruitment and retention systematically result in selection by academic ability, but not in the way we would prefer. Rather, at every point of choice, from initial selection of a college major through the decision to remain in teaching, the academically able opt out. To a disproportionate degree the teaching ranks are filled by those below the median on distributions of academic ability. To "raise standards," then, by restricting entry to programs of teacher education would ultimately produce a teacher shortage. One analyst estimates, for example, that restricting entry to those scoring above the lowest fifth on tests of academic ability

> ... would clearly affect the real supply of teachers in a disproportionate way. For example, 30% of those who teach are drawn from the lower 40%. Indeed, if schools of education and public employees insisted that to be a teacher one must score above an SAT verbal score of 496 (the mean for non-recruits for the National Longitudinal Study sample), nearly 70% of those in this sample who indicated they would still be teaching by age 30 would be denied access to the teaching occupation.[13]

What, though, does academic ability have to do with good teaching? Everyone would agree that teachers must be masters of the subject matter they are to impart to students, but scores on intelligence or general achievement tests are imperfect substitutes for subject mastery. Is academic ability important to effective teaching? A long line of research which attempted to link characteristics of teachers to student outcomes produced few sizable, consistent relationships.[14] The one finding frequently cited, however, came from the 1965 Coleman report and linked a measure of teacher verbal ability to student achievement. This relationship has held up, but is of modest significance, and is itself only imperfectly related to the various tests and measures referred to above.

In sum then, subject mastery is certainly a desideratum for teachers, but evidence on this is scanty. Of course, academically able teachers who are verbally fluent are preferable to those of lesser ability, but no hard evidence supports a relationship between teacher academic achievement or ability and student outcomes. Finally, it seems probable that "floor" effects may obtain here. If teachers are simply too inept academically, this may seriously undercut their effectiveness, but again there is no evidence on what the floor may be or on whether we are in danger of approaching it. Nevertheless, the trends noted here are worth concern: the academic quality of the teacher workforce, not high to begin with, is declining.

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Other teacher workforce issues

Several additional teacher workforce issues will complicate efforts to remedy problems of teacher quality. First, teacher supply and demand continues to be unevenly matched. The teacher labor market is regional and sub-regional, making aggregate figures on supply and demand misleading, but there are several supply and demand problems which many communities are likely to face in the near future. Over the short term, declining enrollments, especially at the secondary level, will continue to depress the teacher labor market and with it prospects for higher salaries. However, severe shortages of math and science teachers are already occurring, with the supply of new teachers in these areas nearly nonexistent in some states. This problem has already attracted considerable concern from national, state, and local policymakers, with a variety of remedies proposed or underway.[15] More far reaching, however, is the imminent general teacher shortage. By the end of this decade, rising elementary enrollments will stimulate demand, but there will be a rapidly dwindling supply of new teachers. Between 1972 and 1982, education graduates dropped nearly 50 percent and projections indicate a continued decline, while the 18-24-year-old age cohort also decreases. On the supply side, then, a declining number of education majors from a shrinking pool of graduates means a shortage of unknown magnitude by the late '80s. (The behavior of the teacher reserve pool makes exact predictions difficult). This shortage is liable to collide with state efforts to tighten entry into teaching by raising standards.

Second, the teacher workforce is developing a middle-age bulge.[16] At the lower end of the age distribution, declining enrollments have meant no new hires and reductions-in-force by seniority in many districts. At the upper end, there has been an increase in early retirements. This shift creates two problems: as school district staffs are increasingly tenured and at the top of the salary scale, they become more expensive. The age shift in the teaching population has escalated the costs of education. And an aging, tenured teacher workforce is difficult to motivate. Salary incentives are gone, teachers in their 30s and 40s feel burned out but deadended, and the effects on staff morale and school climate may be devastating. This is a most serious problem facing educational management in the '80s.

Third, districts most in need of excellent teachers are least likely to attract and retain them. High concentrations of disadvantaged students reside in inner cities and rural areas where poverty, racial discrimination and anomie in the community seriously jeopardize opportunities. If schools are to effectively break the vicious circle of generations of such debilitating conditions, school staffs must be unusually skilled and dedicated. Evidence suggests, however, that teachers tend to transfer from innercity schools to suburban schools; although more recently in declining enrollment districts, rules governing termination and transfer, rather than teacher preferences, have shaped patterns of teacher mobility.[17] Furthermore, financial inequities often mean that districts offering the best working conditions also offer the best salaries.

Education is but one of a host of problems confronting our cities, especially those in the Northeast and upper Midwest, but a critical question for our society today is: Who will teach in urban (especially secondary) schools?

The preparation of teachers

Teacher educators face a dilemma: without greater resources, programs cannot make a difference; without proof they *can* make a difference, they cannot secure greater resources. Unlike professional education in other fields, teaching has not developed an extended period of preservice preparation. While the history of professional education in such fields as law, medicine, and engineering reveals a progressive extension of the time devoted to preparation and an increase in the requirements for a license to practice, teacher preparation has remained virtually unchanged for the past 50 years.[18] The basic scheme in most states still involves a fraction of time for education courses during pursuit of an undergraduate liberal arts degree, plus several weeks of inadequately supervised practice teaching.

By another measure as well, resources devoted to preservice education are minimal and unsatisfactory: a 1978 study of 29 universities revealed that the average cost per academic year of instruction in teacher education was only $927.[19] During that same year the average national per-pupil expenditure in the U.S. public schools was $1,400. One year later, in 1978–79, the average expenditure per full-time equivalent student (FTES) in higher education was $2,363. These data were not derived from the same base, but the disparity is still remarkable.

On one hand, then, the resources devoted to preservice teacher education are so insufficient as to preclude strong effects. On the other hand, there is so widespread a perception of the mediocrity of teacher education that additional resources of time and money seem unlikely. Little evidence substantiates this perception, and the 1200-odd institutions preparing teachers vary enormously, but the case against programs of teacher education has a number of facets. There is first the problem of standards. It is probably more accurate to say that many education programs have always had low standards than that they have lowered their standards. A 1978 survey of 200 teacher training institutions revealed that 192 of these schools had no quotas limiting the number of students.[20] Furthermore, despite demographic predictions of continued enrollment declines in the elementary and secondary population, postsecondary institutions for the most part have not reduced their programs. A recent AACTE survey of some 633 member institutions revealed that only 22% of this sample have reduced their programs and only 16%

project retrenchment in the next five years.[21] This survey further revealed that only one in ten of the institutions sampled has altered their requirements at all in the last five years. This is not to say, however, that teacher education institutions have no admissions criteria. Typically, they rely on grade point average, language proficiency tests, interviews, a variety of standardized tests and several other measures. So, while there is undoubtedly great variety across institutions in the type and stringency of standards applied, there is reason to believe that many programs are not especially selective.

A second problem is the quality of teacher preparation programs. As with medicine, law, and other professions, teaching is a practical activity with a theoretical underpinning. Striking the proper balance between theory and practice in a limited amount of time has always been a problem. Some argue that teachers most of all need strong subject matter preparation, and that so-called methods courses are worth little. Others argue that teachers must be broadly knowledgeable about education, understanding something of its history, its sociology, its philosophical disputes, and so on. Still others argue that recent advances in educational research provide a firm basis for a science of pedagogy, and that courses in teaching methods, curriculum planning, test construction, and the like, based on scientific principles, should be a major component of the program. Finally, there is widespread agreement that preservice preparation should feature a well-supervised, extended period of practice. Prospective teachers learn best by actually teaching under real conditions with supervision which provides corrective feedback. As currently constituted, teacher education is probably inadequate in terms of each of these arguments, but there is simply not enough time to carry through a program including everything. Surveys of teachers have for years revealed that they prize their practice teaching experiences most highly, and evidence on teaching internship programs also suggests that supervised, practical experience is quite valuable.[22] However, to sacrifice teachers' understandings of why they do what they do would be shortsighted, as it would be in medical education, and to undercut subject matter preparation also makes little sense. So, we return to the dilemma of trying to accomplish too much with too little . . . .

Contentions about what makes up a necessary and sufficient program of teacher preparation do not address whether even an exemplary program would make a difference to effectiveness on the job. A third basis for criticism of teacher preparation really rests on the suspicion that elaborate preservice training has few lasting effects and does not readily translate into enhanced student achievement. Because proposals to upgrade the quality of teacher preparation tend to be costly, this is in part a return-on-investment issue. But the proposals also deal with complex and little-explored questions about the relationship of training to practice. No body of research has accumulated around this question in education, but scattered studies suggest that the socializing effects of particular schools are quite powerful and do indeed extinguish or modify skills and behaviors learned in preservice training.[23] For example, students familiar with a particular skill usage will reinforce the teacher's use of that skill. However, if a teacher's methods are incongruent with student expectations, this may subtly modify the teacher's behavior.[24] Research on this issue is hardly conclusive, but is sufficient to raise a question about the connection between training and practice.

On the question of validating teacher training with reference to student outcomes, there is virtually no good data. In large part this is due to difficulties in conducting such research. The causal chain linking aspects of a training program, changes in teacher behavior uniquely attributable to training effects, and changes in student outcomes uniquely attributable to the relevant teacher behaviors is long and extraordinarily difficult to establish with precision and certainty. At the present time, then, we cannot resolve the debate about the value of teacher education with reference to student outcomes.

Other issues of teacher preparation concern its relationship with the ongoing professional development of teachers. Presumably trainees need not learn all there is to know about teaching before they are accomplished enough to begin practice, and there is today mounting attention paid to inservice education and staff development. A full treatment of issues in this area is beyond the scope of this paper, but it is worth noting that inservice education is plagued by many of the same problems confronting preservice training, and that the two are not well coordinated.[25] Teacher preparation, though, is best conceived as a continuum from initial training through induction experiences to ongoing education over the course of a teaching career. This enterprise has not enjoyed steady improvement over the years and goes on today much as it has in the past.

Approaches to reform

Proposals for reform abound. Nearly all involve state and local rather than federal policy and practice, although the magnitude of total federal activity in the area of personnel development has been surprisingly large. A 1979 compilation totaled 43 federal discretionary and formula grant programs supplying nearly $5 billion in funds for a variety of training activities aimed at teachers, administrators, and other personnel in colleges, and state and local education agencies.[26] This sizable but scattered investment has provoked the criticism that federal funds for teacher training, which may not be commingled, seriously fragment inservice training at the local level.

At the state level, policy for the regulation of teaching and teacher education has exploded in recent years. In the area of teacher licensing, competency and other tests (e.g., the NTE exam) are increasingly popular. Roughly three-fifths of the states now employ some form of test for teachers,[27] with the Southern states (e.g., Florida, Alabama, Louisiana) leading the way. Georgia, South Carolina, Oklahoma, and Florida have also added classroom observation to the certification process. Other proposals include a national teacher credential, the establishment of professional examination boards to increase teacher or lay participation in the process of regulating entry to teaching, and the requirement for an additional year of preparation and/or a trial period prior to certification.

Tests, though, have a number of drawbacks: no test's validity has been established as a predictor of effective teaching; in several states minority candidates have had difficulty passing the tests, raising the issue of fairness; and the fact that the tests are prepared by teacher educators has provoked criticism. The extension of teacher training also draws criticism. There is no evidence that extended training improves the quality of teacher education and some critics contend that a fifth year will simply prolong a mediocre program. Furthermore, many students from blue collar or disadvantaged backgrounds can hardly afford the costs of a four-year program, let alone a fifth year.

The evaluation and accreditation of teacher training institutions is another means for introducing quality control into the teacher preparation process. However, accreditation currently goes on at national, regional, and state levels, and standards tend to be overlapping, varied, and confusing. For example, the National Council for the Accreditation of Teachers Education (NCATE) has sent site visit teams on a voluntary basis to nearly half of all teacher-training institutions, but a recent study reported that in 16 of 21 states investigated, institutions had state approval and had certified graduates for teaching in spite of disapproval by NCATE.[28] Furthermore, accreditation seems a rather weak mechanism for quality control: approval is not linked to graduate effectiveness, participation in NCATE is voluntary, and accrediting agencies can only recommend, not require, program changes.

Teacher educators have proposed a variety of reforms in the preparation of teachers. As indicated, one line of reform involves an extended period of preparation with a longer clinical experience. To implement such a proposal would require a number of changes in the present system, including better relations between universities and school districts, enhanced status and training for clinical instructors on university campuses, and increased funding for teacher preparation programs.

A related reform is the internship year, where a beginning teacher receives extra help during the first year or two of teaching. Such a scheme has the virtue of linking support to the actual problems beginning teachers face in a particular community. However, such proposals have run up against the usual problems of who would control the process and who would pay.

A second suggested reform calls for schools of education to expand and diversify their programs in order to prepare graduates for work in a variety of school and non-school settings. The 1980 amendments to the Higher Education Act authorized the Secretary of Education to make grants to schools of education for such purposes, although no funds have been appropriated. Behind this legislation is a concern for the status of teacher preparation programs. In the face of declining undergraduate enrollments in education, many universities are terminating their teacher training programs, raising the possibility of further declines in the quality of the enterprise. However, it is unclear that diversification of teacher training would attract more people to teaching.

It is worth noting that all of these reforms call for more of something: more teacher candidates of higher quality; more frequent evaluations of teachers; more years at the university; more use of tests; more evaluators to review each college of education with more stringent standards; more teacher and lay involvement in the regulatory process. In a prior time, at least one prestigious observer called for less. Harvard president James B. Conant in his 1963 assessment of teacher education argued that a baccalaureate degree from a first-rate college and successful performance as a student teacher with supervision from skillful "clinical professors" would constitute the most effective certification process.[29] In today's terms his recommendations would be termed "deregulation." He favored the simplification of rules and requirements but with the strict, uniform enforcement of a short list of objectives, the heart of which was a strong liberal arts education. This point of view, then, serves as an interesting counterpoint to the general drift of public policy in this area today.

Finally, are these various reforms of teacher preparation likely to influence the attractiveness of teaching as an occupation? In fact, tightening entry requirements and increasing the costs of preparation may have the perverse effect of depressing the supply of teachers at a time when supply is already beginning to seriously lag. As one commentator notes, "The nation gets approximately what it pays for—the bottom third of the college-going population seeking positions paying salaries in the bottom third of the college-trained market place, almost always for less money than what other graduates will command."[30] Without addressing the question of incentives to enter and remain in teaching, it is unlikely that the quality of the teacher workforce will substantially improve. ■

NOTES

1. Evidence on decline in the academic ability of undergraduate education majors has been compiled by Timothy Weaver. For his most recent review, see T. Weaver, "Demography, Quality and Decline: The Challenge for Education in the 1980s." In *Policy for the Education of Educators: Issues and Implications.* Washington, DC: AACTE, 1981.

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13. Vance, V.S. and Schlechty, P.C. "The Structure of the Teaching Occupation and the Characteristics of Teachers: A Sociological Interpretation." Paper prepared for the National Institute of Education under Contract No. NIE-81-0100. (Chapel Hill, NC: University of North Carolina, 1982).

14. See, for example, Getzels, J. and Jackson, P. "The Teacher's Personality and Characteristics" in *Handbook of Research on Teaching,* N. L. Gage (ed.) Chicago: Rand McNally, 1963.

15. For a review of proposals to cope with the math-science teacher shortage, see James Guthrie and Ami Zusman, "Teacher Supply and Demand in Mathematics and Science," *Phi Delta Kappan,* September 1982, Vol. 64, No. 1: pp. 28–32.

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17. Research up to the 1970s showed teachers moving from urban to suburban schools. See, for example, Becker, H. "The Careers of the Chicago Public Schoolteacher," *The American Journal of Sociology,* 1952, Vol. 57: pp. 470–77; Greenberg, D. and McCall, J. "Teacher Mobility and Allocation," *Journal of Human Resources,* 1974, p. 9; and Anderson, B. and Mark, J. "Teacher Mobility and Productivity in a Metropolitan Area—A Seven Year Case Study," *Urban Education,* April, 1977, Vol. XII: pp. 15–36. Some recent evidence, however, indicates that declining enrollments and resulting personnel responses have altered this pattern so that now young teachers with low seniority are likely to be involuntarily transferred. See Murnane, R. "Teacher Mobility Revisited," unpublished paper, New Haven: Institution for Social and Policy Studies, Yale University, June, 1979.

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23. Some research suggests that students socialize teachers. See, for example, Copeland, W.D. "Student Teachers and Cooperating Teachers: An Ecological Relationship." *Theory into Practice,* Vol. XVIII, No. 3: pp. 194–199. Also, Klein, S.S. "Student Influence on Teacher Behavior." *American Educational Research Journal,* 1971, Vol. 8: pp. 403–421. Another source of socialization within school is the faculty culture. For a review of such effects, see Parelius, R. "Faculty Cultures and Instructional Practices," Rutgers University, September 1980, unpublished paper.

24. Copeland, *Ibid.*

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Recruitment and Admissions

This *Issuegram* was prepared on March 1, 1983, by Bob Palaich, political scientist, Education Governance Center. For more information, call 303-830-3800.

23. State Policies To Screen And Attract Teachers

Reprinted with permission of Robert Palaich, "State Policies to Screen and Attract Teachers," ECS Issuegram, Education Commission of the States, March 1, 1983.

The Issue

As state policy makers across the country search for ways to restore confidence in the public school system, one issue they are addressing is the quality of instruction. Since the most important variable in classroom teaching is the teacher, states have begun a thorough reevaluation of their policies for recruiting, selecting and retaining teachers. This effort is taking place at a time when recent studies have found that college graduates who are the most academically able either do not enter the teaching profession, or are the most likely to leave it.

Context

The Past. Between 1950 and 1970, the teaching workforce increased by 48% as children born in the post-war baby boom moved through the school system. Most of the large numbers of teachers who entered the profession in these years were recently trained rather than experienced. Most were college graduates, since states had by then made the bachelor's degree a minimum requirement for teaching. The result was that, to a much greater extent than before 1950, teaching began to compete with other professions for college graduates. What little systematic information there is on retention during this period indicates that a

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disproportionate number of teachers who left teaching were women of higher measured intelligence, whereas those who continued to teach were of lower intelligence. Later studies found a similar trend for minority teachers.

Since 1970, two trends have been dominant. First, the supply of teachers is shrinking. Declining student enrollment and an oversupply of new teachers caused enrollments in teacher education programs to drop nearly 50% between 1972 and 1980. Second, new teachers continue to have the lowest academic test scores of all college majors. (Although the relative importance of academic ability in teaching has been widely debated, this type of ability has always been considered a major criterion.) These national findings were confirmed in North Carolina by Vance and Schlechty (1982).

The Present Outlook. The supply of new teachers is down. Fewer students are attending colleges than in the past and substantially fewer are majoring in education. (For a more detailed treatment of teacher shortages, see Issuegram #24, Teacher Shortages in the Next Decade.) Further, the quality of those entering the teaching profession has been questioned. Several reasons have been offered to explain the decline. The first relates to the changing role of women in American society. Put simply, fewer women feel the need to take advantage of a teaching schedule. Second has been the effectiveness of affirmative action efforts, which have provided capable women and minority candidates with attractive career options other than education. A third reason has been the expansion of the human services sector of the economy. People who wish to serve other people now have more and broader employment opportunities than before. Therefore, even if the supply of teachers rises to meet the demand, it is likely that the overall quality of new teachers will probably be lower than in the past.

Current State Policies

To raise teacher quality, states have tightened entry requirements, mandated evaluations and expanded preservice training. They have chosen a regulatory approach because they have used it historically to establish credentials for a variety of professions and because it tends to be less expensive than other approaches: raising the cutoff point on a particular test from the 50th percentile to the 75th percentile, for example, is inexpensive to implement. What is not clear, however, is whether these regulatory policies will substantially improve the quality of new teachers. The likelihood appears low for two reasons. First, implementing such policies may be a problem, especially in the areas of evaluation and preservice training. Second, an approach that is strictly regulatory is a one-sided approach. If teaching is increasingly less attractive to young college graduates, then raising standards and restricting entry into the profession are not likely to make it more attractive. Many people now argue that public policy must not only set higher standards but also **provide incentives** that will allow teaching to compete successfully for college graduates.

What we have, then, are two different approaches to the problem of raising teacher quality. The first approach eliminates unqualified candidates through "screening." Screening is inexpensive, but its short-term impact on teacher quality will probably be marginal because of the time it takes for undergraduates to become teachers. The second approach provides incentives -- "magnets" -- to attract qualified college graduates into teaching. Incentive programs are more difficult to administer and more expensive.

Stricter Standards--The Notion of Screening

Recruitment. Twenty-two states have raised or are seriously considering raising the grade point averages that high school graduates must have to enter teacher education programs and the scores they must make on college entrance tests. (Although many of these 22 states are southern states, the rest are located in every region of the country.) Another screen that states have imposed is to require that students complete a series of approved education courses before they can be certified. Unless students are education majors, qualifying for certification demands extensive (and expensive) extra preparation.

Selection. States have regulated the certification of teachers for many years. Every state requires prospective teachers to complete an approved program with required courses, and approximately 35 states impose at least some of the requirements themselves. (In the remaining states, institutions of higher education approve programs.) Twenty-three states currently have or are seriously considering imposing state-wide teacher tests; seven states require that prospective teachers have college grade point averages above a certain minimum before they can be certified. A few states require teaching practicums or internships that often involve extensive evaluation. In Oklahoma, for example, interns must be evaluated by the principal, a teacher and a faculty member from the teacher training institution. In practice, unfortunately, people do not always take evaluation requirements seriously and do not always do a good job of providing feedback to the prospective teacher. Further, states have given school districts little guidance on hiring new teachers, although most have established minimum-salary schedules that all districts must follow.

Retention. States have imposed few screening policies to retain qualified teachers. One exception has been the state-wide salary schedule. Every state-wide salary schedule is explicitly linked to teaching experience and additional coursework, which has meant that the only other way for teachers to earn more money has been to leave the classroom for an administrative role. Recently a number of states have increased the requirements for recertification, a process in which evalution again plays an important part. North Carolina school districts must prepare individualized professional development plans for every teacher. Their use of these plans in the evaluation of teachers could lead to substantial improvement in the quality of teaching in North Carolina, but it could also have no effect at all, depending upon the quality of the evaluation.

Incentives for Teachers -- The Notion of Magnets

Recruitment. A number of states have tried to lure better-qualified students into schools of education. Two of the most popular methods are offering scholarships in exchange for five-year teaching commitments (a program similar in concept to the Reserve Officers Training Corps) and offering low-interest loans to qualified education majors (Kentucky and Louisiana have programs of these sorts). Revamping the education school curriculum to make it more attractive to students has received some attention at the state policy making level, but most of the interest in curriculum revision has come from schools of education.

Selection. Two incentive systems are already in place, one imposed by states and the other beyond the states' control. Statewide salary schedules set starting salaries for new teachers that are somewhat higher than beginning salaries in other professions. Beyond the control of the state is the relative appeal of certain school districts. For the most part teachers prefer to work in suburban school districts, which often means that rural and urban districts must offer higher salaries -- sometimes much higher -- to enlarge the pool of qualified candidates.

Retention. On the whole, states and school districts have seemed reluctant to offer teachers incentives to stay in the classroom. One policy that has been used, however, is differential pay. Teachers have been offered more pay for teaching different subject areas, teaching at different types of schools or attending in-service programs. "Meritorious teaching performance" has also been rewarded. Many school districts have tried at least one of these approaches; the city of Houston uses them all. The problem with pay differentials is that they generally provide only a one-time incentive. Once someone is rewarded for teaching in a subject area, teaching in a particular type of school, or taking in-service training, the system provides no other incentives. "Merit pay" incentives are somewhat different, since teachers are at least theoretically eligible for more than one pay increase. However, for a variety of reasons, there would be great pressure to spread increases among as many teachers as possible, which would make merit pay more or less a one-time increase. Also problematic is defining what constitutes meritorious teaching.

Although the idea of state-mandated evaluations often carries negative connotations, well-structured evalutions that are implemented appropriately can help answer the question teachers often ask themselves, "How am I doing?" Good evaluation procedures can foster interaction with peers, which makes evaluation less threatening and begins to break down the isolation classroom teachers sometimes feel. For evaluations to be successful, all those involved in the process must commit time and resources.

A "career ladder" for teachers joins pay differentials to a series of evaluations. At the present time both the Charlotte-Mecklenberg (N.C.) school district and the state of Tennessee are considering career ladders for teachers. Making career ladders work will require restructuring the relationship between teachers, administrators and school boards, especially since cooperation between these groups is essential. Nonetheless, career ladders are certainly important to consider as an incentive.

Conclusion

Given the three national trends that are changing elementary and secondary education -- higher student enrollment starting in the mid-eighties, the decline in the attractiveness of the teaching profession especially among bright young women and minorities, and the decline in test scores of people who become teachers -- it is important for states to consider ways to offset these trends. Strategies to improve the quality of teaching fit in well with the overall school improvement movement. Most states have already implemented policies to recruit, select and retain better teachers. The majority of these policies raise standards for entry into the profession or for recertification. But stricter standards will not make teaching more attractive to those who at the present time are not considering it as a career. This is especially unfortunate given the projected enrollment increases and increased demands for teachers during the next 15 to 20 years. Policies that provide incentives for teachers are only now being considered. Adopting these policies is likely to be difficult, since they will be expensive to carry out and they will likely restructure the relationship between teacher organizations and school districts. However, both types of policies -- standards and incentives, or screens and magnets -- must be developed to assure the presence of good teachers in the classroom.

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Teacher Recruitment:
Recommendations for Program Implementation

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Teacher Recruitment:

Recommendations for Program Implementation

The problem of encouraging able, sagacious persons to pursue teaching careers is complex. Though some would have educators believe that the fault for poor quality teaching rests primarily with teacher educators, in fact the etiology of teacher incompetence where it exists, is attributable to a broader cultural phenomenon - specifically: the way schools are perceived and teachers are treated. Given such a circumstance, pointing the finger at any single group is inappropriate, if not counterproductive.

Almost twenty years ago, Koerner (1963) issued his scathing, indictment of teacher education in the *Miseducation of American Teachers*. Since that time there have been a host of similar acerbic critiques. Lyons (1977) described the "puffed-wheat curriculum" of teacher education as a primary cause for the lack of academic rigor in schools. *Time* (1980) published "Help! Teachers Can't Teach" and *Newsweek* (1983) printed a tractate titled "Can the Schools be Saved?" In each case the low intellectual and performance abilities of education majors were highlighted and the deficient nature of teacher training programs were vividly described.

Enrollment drops in teacher education have seemingly accompanied the extreme public criticism of teacher training. Fewer persons are indicating an interest in teaching and fewer individuals are actually matriculating through formal training programs. Ohio's teacher training institutions for example, prepared 17,551 in 1973; in 1983 that number was 6,134. Similar conditions exist in other states. And the reduced enrollments, related more to market demand than teacher education program quality, has had deleterious effects on the types of individuals selecting teaching as a career. Indeed Weaver (1979) found: "As market demand for new graduates in any given field declines, not only will the quality of potential students decline but also the quality of the applicant pool prepared to enter that field of study" (p. 32).

Recruiting more able prospective teachers will ameliorate only part of the teacher quality problem. Wholesale changes are also needed in the core curriculum for teacher preparation, in how teachers are rewarded and compensated for their pedagogical efforts, in how teachers are treated by administrators, and in how teachers are encouraged to grow and develop. This paper will focus primarily on making recommendations vis-a-vis teacher recruitment, but the other factors must be addressed if teacher quality and competence are to be significantly enhanced.

The authors have drawn their recommendations from two major recruitment studies (McGeever, 1982; Crabtree, 1983) and several recent articles on selection, retention and recruitment (Schlechty and Vance, 1983; Wimpelberg and King, 1983; Weaver, 1979; Hopfengardner, Lasley and Joseph, 1983). In addition, the University of Dayton has been engaged in an extensive recruitment program (cited in McGeever, 1982 and described in Hopfengardner, Lasley and Joseph, 1983) and the real problems associated with this recruitment effort have tempered, implicitly at least, some of the proffered suggestions advocated in the current literature.

A Review of Two Studies

Two major studies have been conducted during the past two years to identify the recruitment practices of teacher training institutions. The first study (McGeever, 1982) was conducted on a statewide level, the second (Crabtree, 1983) had a national focus.

McGeever conducted a study in cooperation with the Ohio Department of Education to identify effective recruiting practices in Ohio's teacher preparation programs. All forty-eight Ohio teacher education institutions were surveyed. McGeever sought (1) to gather baseline data on the recruiting practices of teacher education units, (2) to identify model recruitment programs for teacher education institutions in the state of Ohio, and (3) to make recommendations for recruiting higher quality students into teacher education.

McGeever found that most institutions in Ohio do not have formal recruitment programs, though many do engage in informal recruiting efforts. Teacher recruitment in most Ohio institutions takes the form of disseminating brochures and mailing college catalogues. Typically students recruited are from local high schools, or at best, high schools within the state.

The most successful programs studied by McGeever offered some type of "personal touch." These "exemplary" institutions sent personalized letters to prospective candidates, conducted in-depth telephone conversations and often encouraged campus visitations.

Two problems identified by McGeever in his study related to the effectiveness of the recruitment effort. Specifically: (1) To what degree are high quality students really encouraged to enter the training program and of those students who are "recruited" what are their perceptions of teacher education following completion of their preparation? and, (2) Are they "quality" individuals pursuing teaching as a life-long (or even short-term) career or are they receiving the training and then pursuing some alternate career path?

Crabtree (1983) conducted a similar though broader scale study. He surveyed 578 SCDEs currently holding institutional membership in AACTE. Crabtree attempted to determine the efforts of various SCDEs across the country to recruit students into preservice teacher education programs and to describe the attitudes and perceptions of teacher educators toward the notion of teacher recruitment.

Crabtree, like McGeever, found that most teacher recruitment efforts at colleges and universities are casual. Well over half of the respondents indicated that they did not have systematic recruitment programs. Further, the absence of formal recruitment efforts in these institutions was attributable primarily to budget constraints and an absence of qualified personnel. In fact, eighty-nine (89) percent of the institutions surveyed by Crabtree indicated that they did not have monies allocated for recruitment.

According to Crabtree, where recruitment efforts are evident, institutional representatives attempt, implicitly or explicitly, to establish specific criteria for attracting potential teacher candidates. The primary recruitment criterion was related to an individual's (prospective teacher's) interest in a teacher training program. The second criterion was high school rank or student performance on the SAT/ACT. A final criterion included references from principals, teachers and university faculty members.

Scholarship programs and campus visitation programs were identified as particularly effective recruitment methods. Other efficacious techniques included the use of "salaried recruitors" and, particularly for traditionally Black institutions, the use or oral, more personalized presentations.

Endemic Problems

The literature on recruitment is extremely limited. Still, researchers and teacher educators interested in the subject of recruitment have identified significant problems that must be addressed before high quality candidates can be consistently encouraged to enter teaching. These problems will be discussed briefly before any attempt is made to outline recommendations for more systematic recruitment efforts. Indeed, until these difficulties are more adequately addressed, thoughtful, formal recruitment programs will experience limited success.

First, the quality of teacher training programs must be upgraded. Education courses must be sufficiently demanding to challenge talented, intellectually able students. Bright, prospective teachers will not be satisfied with simplistic approaches to the educational process. They will want course offerings that are grounded on more than conventional wisdom. Inquiry approaches should and must be more fully integrated into the curriculum to insure that students can examine and critique a variety of pedagogical and instructional approaches. Such approaches will also train prospective teachers to merge the theoretical with the practical. Enabling teachers to think and to use what they know, requires that teacher education move beyond puffed-wheat subject matter.

Second, conditions in most schools militate against encouraging academically capable individuals from staying in teaching. Schlechty and Vance (1983) identify four specific circumstances that discourage bright career-oriented men and women from deciding to work in classrooms: (1) Most salary increases for educators (teachers) come within the first third of their professional lives. Just as others are beginning to generate more income, teachers reach their peak; (2) There is a distinct absence of a differentiated career path in education - once a teacher, always a teacher; (3) Most schools do not enable collective problem solving or decision making. Administrators make the decisions, teachers follow them; and (4) Schools are organized around bureaucratic procedures and grounded in authoritarian management strategies. Classroom educators are ruled with a firm hand. Teachers are encouraged, on the other hand, to be nurturing and facilitative in their interactions with students. They are treated one way but expected to behave toward students in another. The paradoxical nature of these perspectives makes teacher professional growth cumbersome and, at times, fatuous.

Finally, enrollment needs in teacher education institutions make a focus on quality difficult. For example, if institutions decide to recruit and admit only high ability students, close to half of the prospective teachers currently enrolled would be retained or denied admission--see Schlechty and Vance (1983) for a more detailed discussion of this possible circumstance. To avoid an "enrollment crisis" it appears that institutions may have to continue to accept a wide range of students. Recruitment efforts, though, can and should be geared at identifying the "able" and less focused on the "available."

A Recruitment Model

Effective recruitment plans must be systematic in nature and should be an integral part of the total teacher preparation program. Recruitment should be perceived as cyclical in order for the total education program to sustain its vitality. The program should reflect the ideological purpose of the SCDE, by attempting to attract the kind of students who demonstrate the propensity to be successful in the preservice experience. This is contingent upon the SCDE identifying the knowledge, skills, attitudes/values its graduates will be expected to demonstrate as classroom teachers. Recruitment should be perpetual in nature so that the program's graduates will have a positive perception of their preservice experience and will encourage, in turn, high school students they feel have the propensity to succeed in teaching to consider pursuing a teaching career. Figure 1 represents an idealized form of a recruitment continuum.

The process begins with identification and formulation of recruitment criteria. Institutions may perceive that it is most desirable to recruit students with high academic abilities, for example, and identify students with high SAT/ACT scores or excellent high school class rank. Other institutions might stress the experimental and actively seek to find students who enjoy working with children and who already have an established record of positive formal and informal experiences with children.

Following the formulation of recruitment criteria, teacher educators must begin to identify those students who can demonstrate the knowledge and skills requisite for successful teaching. Such an identification process necessitates increased intra-institutional dialogue and trust. Teacher educators must talk to their own admissions staff to determine who is applying. The applicant pool is a primary source of candidates (see Appendix A). Increased communication is also needed, though, between colleges/universities and the various significant others (high schools, alumni) involved with potential teacher candidates. The significant others provide not only basic information

FIGURE 1
RECRUITMENT MODEL

RECRUITMENT CRITERIA FORMULATION

- Establish clear recruitment criteria for use in identifying outstanding prospective teacher candidates
- Determine aptitudes prospective candidates should demonstrate to assure the attainment of requisite knowledge/skills/attitudes/values consistent with the SCDEs philosophy and goals
- Consider the following criteria in prospect recruitment parameters:
  - high SAT/ACT scores
  - high HS rank in class
  - successful experiences in working with youth
  - recommendations of HS officials

PROSPECTIVE STUDENT IDENTIFICATION

- Encourage HS students meeting criteria to consider a teaching career by:
  - parents
  - guidance counselors
  - classroom teachers
  - alumni of the SCDE
- Encourage HS students to pursue teacher preparation program by SCDE:
  - SCDE students
  - faculty/administration
  - alumni
  - institution's admissions staff
  - systematic SCDE recruitment program staff

PRESERVICE TEACHER EDUC. STUDENT SELECTION/RETENTION

- Students participate in progressive retention program throughout undergraduate experience via:
  - coursework
  - clinical/field-based experiences
  - "Pre-Service Teacher Perceiver" process

JOB PLACEMENT SERVICE COORDINATION

- Students participate in developmental sequence throughout preservice program
- Students receive systematic career development and job-placement services by SCDE

GRADUATION - INITIAL EMPLOYMENT AS A CLASSROOM TEACHER

CONTINUITY OF RELATIONSHIP WITH SCDE

- Establish systematic formal and informal contacts between alumni and SCDE:
  - Specific and on-going support provided by SCDE faculty
  - SCDE alumni network
  - Institution's alumni and development offices

FORMAL/INFORMAL RECRUITMENT BY SCDE ALUMNI

- Suggest formal SCDE recruitment efforts
- Conduct informal recruitment by encouraging HS students demonstrating propensity to be successful in the classroom to consider teaching

about an individual but can also identify persons of outstanding potential who may not have exemplary credentials.

The four remaining steps in the recruitment process focus on enabling the growth of, securing employment for and receiving feedback from the individual who has been recruited. Once admitted to the professional education program, teacher educators have a responsibility to help recruited individuals acquire the relevant professional skills and to assist them as they embark on a teaching career. Certainly not all recruited individuals will continue professional training; some may drop out or be encouraged to select other fields. The process of selecting potentially excellent teachers can be refined, though. The next section suggests the initiative should rest with teacher educators, not teacher candidates.

Case Study: A Recruitment Model

In this section the authors will provide a more descriptive outline for the recruitment model. Detailed suggestions with regard to its implementation are included in Appendix A. This outline represents the model developed by the University of Dayton School of Education. Phases I and II are taken from "Recruiting Preservice Teacher Education Students" (Hopfengardner, Lasley and Joseph, 1983). The model is based on the premise the SCDE's program should augment, not supplant, the institution's recruitment program.

Phase I entails planning efforts and program development. Teacher educators involved in this phase of recruitment must identify the human and financial resources necessary for creating a comprehensive recruitment effort. Who can and should be involved? What tasks should they perform? Lines of communication need to be opened and relevant significant others must be contacted and encouraged to participate.

Phase II is the implementation phase. Prior ties must be set and recruitment goals established. Specifically: Do recruitment priorities reflect the needs of the institution? And, who should be recruited and how many potential candidates should be contacted? Timelines should be detailed and the available consultative services identified. If adequate resources are to be available, persons responsible for recruitment efforts must establish clear procedures for processing information and assigning tasks. The implementation phase focuses on identifying and communicating with relevant individuals who can support recruitment efforts.

The final phase occurs when the recruitment program is operationalized. The names of candidates are recorded and "banked." Pertinent information is solicited from admissions officials and significant others. Mailing schedules are outlined and personalized letters are sent. Candidates are brought to campus and encouraged to meet with faculty and visit classes. Appendix A provides more information on the factors involved in this phase of the recruitment program.

Recommendations

Based on the research studies, the current literature, and using the findings emerging from the recruitment efforts at the University of Dayton, the authors have identified seven recommendations for teacher educators to consider in developing a formal, systematic recruitment program. These recommendations establish a framework for the development of an effective effort and should assist other institutions as they initiate recruitment programs.

(1) Teacher recruitment should begin with the identification of relevant "teacher excellence criteria." That is: What essential characteristics should a prospective teacher candidate possess in order to excel in teaching? Institutions should establish recruitment criteria and then actively recruit in accordance with those specifications. Most institutions have prescribed knowledge, skills, attitudes and values (KSAVs) - recruitment criteria should be consistent with these KSAV specifications.

(2) Teacher recruitment should include some type of "personal touch." This personal touch may entail sending a personalized letter, engaging in an in-depth telephone conversation with a prospective student, or bringing a prospective teacher to campus. (Telephone solicitations, however, should be avoided as initial contacts.)

(3) Teacher recruitment should include some form of campus visitations. That visit entails an opportunity to attend classes and to meet with faculty members, administrative representatives and teacher education students.

(4) Teacher recruitment efforts should be a joint enterprise, entailing the cooperation of both school of education faculty and admissions office personnel. The ideal situation is to have the admissions office determine prospective students. Teacher educators can use this list to identify persons who might be contacted regarding the possibility of teaching as a career choice.

(5) Teacher recruitment should be a formalized, well-coordinated effort. Budget monies should be allocated and personnel time allotted. Informal recruitment efforts with catch-as-catch can programming produce modest and often negligable results.

(6) Teacher recruitment efforts are enhanced, particularly the recruitment of high ability students, if scholarship monies

can be made available for persons demonstrating a potential for excellence in the classroom.

(7) Teacher recruitment should be directed at students who have an interest in teaching as both a life-long profession and short-term career. Some bright students may not be willing to stay in teaching for prolonged time periods, but that should not preclude their involvement or limit teacher educator efforts to recruit them.

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THE MAKING OF A TEACHER

A Report on Teacher Education and Certification

C. Emily Feistritzer

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CHAPTER II

Admission Into Teacher Education

Nowhere in teacher education in the United States is there greater diversity than in admissions requirements and procedures. Some colleges and universities admit students into their teacher training programs in the freshman year; others not until graduate school. Requirements for admission into teacher education programs vary enormously. Some institutions require a minimum Scholastic Aptitude Test (SAT) or American College Test (ACT) score; others don't even look at SAT or ACT scores. Some colleges and universities require passage of any one or more tests measuring basic skills, content or proficiency; others do not. Some require prior work experience with students; some want recommendations, and others use interviews to decide who gets into a teacher preparation program in their institutions. Many colleges and universities preparing elementary and secondary classroom teachers don't require anything for admittance into their programs other than that the student be accepted by the admissions office of the college or university.

Admission Criteria

Not many institutions of higher education training teachers have well-defined, much less rigorous, standards for admission into their teacher education programs. Fewer than one in ten use high school class rank or high school grade point average as a criterion for acceptance into teacher education. Eighty-two percent say they do not use a SAT or ACT cutoff score as an entrance requirement into teacher preparation.

TABLE 5. PERCENTAGE OF INSTITUTIONS THAT USE THE FOLLOWING CRITERIA FOR ADMISSION INTO TEACHER EDUCATION: 1984

Type IHE	High School Class Rank	H.S. GPA	SAT Score	ACT Score	College GPA	Recommendations	Interviews	Experience with children
Total	9	10	18	17	78	65	52	39
Public	9	7	19	21	81	57	46	40
Private	9	12	17	14	76	71	57	38
<1 K	3	5	9	13	77	77	67	45
1-5 K	7	9	16	15	76	70	54	41
5-10 K	11	9	19	21	79	58	46	32
10 K+	18	16	27	22	81	50	42	36

The small proportion of colleges and universities that use high school data such as class rank, grade point average, or SAT and/or ACT scores may in part be due to the fact that very few institutions accept teacher education students immediately after high school. According to NCEI's survey, only 15 percent of colleges and universities that have teacher education programs admit students into their elementary education programs in their freshmen year. Twelve percent say they admit secondary education students at the freshmen level.

More than three-fourths of the institutions preparing teachers said college grade point averages (GPA's), rather than high school GPA's, were used to determine who gets admitted into their programs of teacher education. This makes sense in light of the fact that approximately 85 percent of teacher candidates are admitted into teacher education after they have completed at least one year of college.

The average college grade point average required among the 543 institutions that provided these data was 2.29 on a 4.0 scale.

Sixty-five percent of the institutions reported using recommendations and half of them said they use interviews to determine whether or not a student can be admitted into their teacher education programs. Nearly 40 percent of the respondents said they required prior experience working with children as an admission requirement.

Private institutions and those with small enrollments rely on personal-contact criteria, such as interviews and recommendations more than public and larger institutions do. Larger institutions use objective data, such as test scores, grade point averages and class rank more than private and small colleges and universities do. Again, this is significant in light of the fact that most teacher education students are enrolled in large, public colleges and universities. However, as pointed out in Chapter 1, more and more students are training to be teachers in the small private colleges.

Only 205 institutions that responded to the NCEI survey said they use either SAT or ACT scores as criteria for acceptance into their teacher education programs. This represents one in four of the NCEI respondents. Of the 112 institutions that said they use SAT scores as criteria for admission into teacher education, only 88 reported the SAT cutoff score they use. The average combined SAT score required for admission into teacher education in the fall of 1983 among these 88 institutions was 844 out of a possible 1,600

-- 49 points below the 1983 national average combined SAT score (893) and 32 points above the 1983 average combined SAT score (812) for high school seniors who said they intended to major in education when they got to college.

TABLE 6. MIMIMUM COMBINED SAT SCORES OR ACT SCORES REQUIRED FOR ADMISSION INTO TEACHER EDUCATION OF NCEI SURVEY RESPONDENTS; FALL 1983

		SAT				ACT	
Type IHE	No. IHE's	NCEI Respond.	Nat'l Aver.	Intended Ed Majors	No. IHE's	NCEI Respond.	Nat'l Aver.
Total	88	844	893	812	93	17.4	18.5
<1K	8	833			9	16.2	
1-5K	32	824			35	17.6	
5-10K	17	849			23	17.3	
10K+	31	866			26	18.6	

Interestingly enough, the average combined SAT score required for admission into teacher education was highest for institutions with enrollments over ten thousand students. The average SAT score used as a cutoff for acceptance into teacher education in institutions enrolling over ten thousand students was 866; for institutions in the five to ten thousand category, 849; the one to five thousand category, 824 and for colleges and universities with institution-wide enrollments of less than one thousand, 833.

Since the response rate for this item is so small, these data do not accurately represent SAT scores of students going into teacher education programs. It only tells us that 88 out of 1,287 institutions training teachers reported a SAT cutoff score they use to screen candidates coming into their teacher education programs.

The 93 institutions that use an ACT cut-off score as a criterion for admission into their teacher education programs report an average score of

17.4 -- 1.1 points below the 1983 average ACT score.

Tests Required for Admission

Sixty percent of the institutions responding to the NCEI survey now require passage of some kind of test for admission into their teacher preparation programs. Over one-fourth of them require passage of either a standardized basic skills test (19 percent) or a basic skills test designed by the institution (eight percent). An additional 23 percent said they require some "other test" for admission into their teacher preparation programs. Only six percent of the respondents use the National Teacher Examination (NTE) as an admissions exam into their teacher education programs. Three percent require passage of a standardized content-area test; an additional one percent give their own content-area test to prospective teacher education candidates.

TABLE 7. PERCENTAGE OF INSTITUTIONS REQUIRING PASSAGE OF A TEST FOR ADMISSION INTO TEACHER EDUCATION PROGRAMS: 1984

Type IHE	NTE	Standardized Basic Skills	Institution-Developed Basic Skills	Stand. Content Test	Inst.-Dev. Content Test	Other
Total	6	19	8	3	1	23
Public	6	25	12	3	1	27
Private	6	15	6	2	1	20
<1 K	4	13	4	3	0	26
1-5 K	7	22	9	4	1	22
5-10 K	5	16	9	3	1	20
10 K+	5	23	10	2	1	24

Again, public and large institutions have a slight edge over private and smaller colleges and universities in requiring passage of some type of test for admission into teacher education. Seventy-four percent of public institutions compared with 50 percent cf private ones use some type of test for admission into their teacher preparation programs. Two-thirds of the postsecondary institutions with enrollments over ten thousand require an admissions test into teacher education while only half of those enrolling fewer than one thousand students require a test for admission into teacher education.

Acceptance Rates

Rarely does anyone who applies for admission into a teacher education program get rejected. Private institutions and those with smaller enrollments have higher acceptance rates than public colleges and universities and those with enrollments over five thousand students.

Of the institutions which responded to the question "What percent of those who apply are accepted to study in your teacher preparation program?," 78 percent said between 75-100 percent. An additional 17 percent reported between 50-75 percent.

Eighty-three percent of the private institutions responding to this item said they accepted over 75 percent of those who apply, compared with 71 percent of the public institutions. Eighty-seven percent of the institutions enrolling fewer than one thousand students accept over 75 percent of their teacher education applicants, compared with 64 percent of the colleges and universities that have total institutional enrollments in excess of ten thousand students.

Clearly, the large and public institutions that have historically trained over half the teachers in the nation have higher entrance requirements and are more selective than many of the small and private institutions. It is noteworthy that enrollments in teacher education are dropping more rapidly in the former than in the latter.

Year Admitted Into Teacher Preparation

Only 15 percent of the colleges and universities responding to the NCEI survey said students preparing to be elementary teachers entered their programs in their freshman year. An even smaller 12 percent of the institutions reported students preparing to be teachers at the secondary level and in special education areas enter their programs in the freshman year. One-third of the institutions report that students going into elementary school teaching are admitted into their teacher education programs in the junior year; 39 percent of the respondents said prospective secondary teachers enter their teacher preparation programs in the junior year. The largest proportion of colleges and universities admit teacher education candidates in the sophomore year -- 48 percent for prospective elementary teachers compared with 44 percent for students aspiring to teach at the secondary level and 40 percent training to teach in areas of special education.

Private colleges tend to accept students in teacher education earlier in their academic careers than do public institutions. Eighteen percent of the private institutions admitted students into their elementary programs in their freshman year, and 54 percent took people into elementary teacher preparation in their sophomore year. Only 11 percent of the public institutions admitted elementary education students in the freshman year. Forty percent of them admit students studying to be elementary school teachers the sophomore year of college.

TABLE 8. PERCENTAGES OF INSTITUTIONS THAT ADMIT TEACHER EDUCATION STUDENTS IN GIVEN YEAR OF COLLEGE, BY CONTROL OF INSTITUTION AND ENROLLMENT SIZE: 1983

ELEMENTARY

Type IHE	Freshman	Sophomore	Junior	Senior	Graduate
Total	15	48	33	2	3
Public	11	40	43	3	3
Private	18	54	24	<1	3
<1 K	17	59	24	0	2
1-5 K	10	54	33	2	2
5-10K	20	42	35	0	2
10K+	19	32	39	3	6

SECONDARY

Type IHE	Freshman	Sophomore	Junior	Senior	Graduate
Total	12	44	39	1	3
Public	8	40	45	3	3
Private	16	47	34	1	2
<1K	14	54	32	0	<1
1-5K	10	49	39	2	2
5-10K	16	41	40	1	2
10K+	15	29	46	3	6

SPECIAL EDUCATION

Total IHE	Freshman	Sophomore	Junior	Senior	Graduate
Total	12	40	30	2	16
Public	9	35	37	2	17
Private	16	46	22	1	15
<1K	5	62	22	2	10
1-5K	10	45	30	1	14
5-10K	14	40	30	0	16
10K+	16	26	34	3	22

SOURCE: The National Center for Education Information, Washington, D. C., Teacher Education Survey, 1984.

For prospective secondary school teachers, 16 percent of the private institutions, compared with only eight percent of public ones, admit students in their programs as soon as they get to college. Forty-seven percent of the private institutions admit secondary students in their second year of college, compared with 40 percent of public colleges and universities.

The large colleges and universities also admit teacher candidates later in their college careers. Nearly half (46 percent) of the colleges and universities that enroll over ten thousand students admit students into their secondary teaching programs in the junior year, and 39 percent admit prospective elementary teachers in their third year of college. On the other hand, three-quarters of the institutions enrolling fewer than a thousand students institution-wide admit teacher education students at the elementary level as freshmen or sophomores. Sixty-eight percent of them admit prospective secondary teachers in the first two years of college.

Only 20 universities that responded to the NCEI survey (3 percent) reported they admit students into both elementary and secondary teacher preparation after they have completed undergraduate work. Seventy-seven institutions (16 percent) said they formally admit students training to be special education teachers at the graduate level. Twenty-two percent of the NCEI respondents in the more than ten thousand enrollment category reported accepting prospective special education teachers after they've gotten an undergraduate degree.

This is particularly noteworthy in light of the current discussions about steps that need to be taken in order to make teaching more of a profession. One suggestion made is to treat it like other white-collar professions and accept students into a professional teacher education school or program only after they've completed undergraduate work. It hasn't seemed to hurt the special education field. The number of new teacher graduates in special education increased in the last decade while the total number of new teacher graduates decreased dramatically.

Institutional Responses to the Quality/Quantity Issue in Teacher Training

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by Phillip C. Schlechty and Victor S. Vance

The quality of the teaching force will not be raised merely by raising entrance or exit standards in teacher education, say the authors, after considerable research. Policy makers must also attend to the conditions of the workplace and to the competitive position of teaching in the larger occupational structure. Radical reform is indicated.

IN THE FIELD of education, few facts are beyond dispute. But two of the more certain are that there has been a substantial decline in recent years in the absolute number and proportion of college graduates preparing to teach and that those who are preparing to teach and those who enter teaching score less well on measures of academic ability than did teacher education majors and practicing teachers in the not so distant past.[1]

Data such as these raise a number of questions. For example, it is reasonable to ask whether the decline in the number and proportion of students entering education is simply the effect of the widespread perception that few teaching jobs are available. It is also reasonable to ask whether there is any reason to believe that the decrease in the proportion of high-scoring students entering teaching is a cause for concern.[2] In addition to these obvious questions, at least one other issue should be addressed when we consider the meaning of data about the quality and quantity of teachers. That issue is the response that institutions of higher education have been making to the conditions these data describe.

As fewer high-scoring students enter teacher education, teacher education institutions must decide whether to accept declining enrollments as an inevitable result of market conditions or whether to adopt some strategy intended to maintain enrollments in the face of an unfavorable market. Teacher training institutions that choose the latter response have few alternatives available to them. One option is to create high-quality training programs and then attempt to recruit high-scoring students aggressively. This strategy assumes that the reason high-quality students are not enrolling in existing programs has to do with the programs themselves rather than with the job opportunities available in the public schools. A second option is to admit more low-scoring students to offset the loss of high-scoring students or to admit students who score even lower than those admitted in the past.

As the national debate over the quality of teaching and teachers heats up, many policy makers and legislative groups assume that many teacher training institutions have already chosen this second option. Acting on this perception, policy makers have taken an obvious remedial step: they have enacted testing programs designed to insure that those who enter teaching will meet some predetermined minimum on measures of academic ability.

Given the declining numbers of high-scoring applicants available to teacher education programs, it would not be surprising if teacher training programs lowered their standards in order to maintain enrollments. Institutions that have traditionally been more selective could employ this strategy effectively. But those institutions that already have relatively low standards cannot lower their standards much further.

The question is, What is the case?

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Have institutions that train teachers generally lowered their standards in order to maintain enrollments? Or have *only some* institutions done so? Perhaps the reported decline in the attraction of teacher education for high-scoring students has nothing to do with standards at all – but can be accounted for solely by individual choices in the marketplace.

We undertook our present study to shed some light on questions such as these. More specifically, we studied the institutional origins of two groups of entrants into the teacher workforce in North Carolina in order to examine possible interactions among a decline in the size of the entering group, a decline in the measured academic ability of the members of that group, and possible competition among teacher education institutions intent on keeping their individual shares of the teacher job market.

Setting of the Study

The teachers whom we studied were graduates of North Carolina institutions of higher education who started teaching in North Carolina public schools between 1973 and 1980. We were particularly interested in those who began teaching in 1973 and 1974 and in 1979 and 1980 – respectively the earliest and most recent years for which data were available.

From our previous research we knew that this population reflected the pattern of qualitative and quantitative decline typical of the nation.[3] However, one demographic feature of our sample was different from the national pattern: there were substantially more blacks among North Carolina teachers. Nationally, between 9% and 11% of beginning teachers are black; in North Carolina the figure is approximately 15%. Since blacks were treated separately from whites in the present study, this demographic difference did not affect the results.

One unique feature of the North Carolina situation proved to be an advantage. All the questions posed in this study were directed toward discerning differences in institutional responses to the quality/quantity issue. Given the number and variety of teacher training institutions in North Carolina (44), the North Carolina case can provide an empirical base for speculating about different types of responses by different types of institutions.

Among the institutions we studied are: an elite private institution (Duke University); an elite public institution (the University of North Carolina at Chapel Hill); two land grant colleges; 11 historically black institutions (six private and five public); several other private colleges that enjoy strong academic reputations (e.g., Davidson and Wake Forest); a number of elite private colleges that were once all female; a number of former state teachers colleges that have become multipurpose universities; three state universities founded since World War II, one serving the largest metropolitan area in the state (Charlotte); a relatively large number of small private schools of modest reputation; and a number of non-elite, nonselective private institutions.[4]

We found wide variations in the numbers of teachers produced by these institutions. For example, between 1973 and 1980 one public institution produced more than 20% of all the teachers employed in the state, whereas one private institution produced less than .01%. Given the history of segregation, it is not surprising that most of the black teachers in North Carolina are produced by historically black colleges, though we found this pattern to be changing. It is also clear that some institutions of higher education have been much more dependent than others on teacher education as a source of enrollment. Similarly, the state has been much more dependent on some institutions than on others for a continuing supply of teachers.

Questions and Methodology

Our study addressed three specific research questions: 1) Is there empirical evidence to support the proposition that teacher training institutions can offset the effects of declining interest in teaching and maintain their own market positions by graduating more students who score lower? 2) If evidence exists to support the proposition in question 1, do *all* institutions that prepare teachers graduate more low-scoring teachers? 3) If the responses of institutions vary, what institutional factors can be linked to this variability?

We used the same data set in this study that we used in our earlier study.[5] Therefore, we will not elaborate on the technical details here. It is enough to note that the data include all the employment records for teachers working in North Carolina schools between 1973 and 1980. These records include the National Teacher Examination (NTE) common scores, the names of the institutions from which teachers received their undergraduate degrees, and data on race and year of hiring. We used data only on those who had no prior teaching experience in other states and who had received their degrees from one of the 44 teacher training programs in North Carolina. Because our earlier research indicated substantial differences between the scores of black teachers and white teachers, we decided to treat the two populations separately.

Once we had identified the population for our study, we divided the group into five categories, according to achievement on the NTE. Our earlier work had shown that this test is a defensible measure of academic achievement.[6] Because we wished to illuminate differences in institutional responses to declining enrollments, we decided to concentrate on the years 1973/1974 and the years 1979/1980 – the beginning and end of the period covered by our data set.

Some institutions offset a decline in the enrollment of high-scoring students by admitting more low-scoring students.

Next we divided the teacher training institutions into six categories, according to the percentages of high-scoring teachers (those in the top two of our five NTE ranks) that they placed in teaching positions in 1973/1974 and in 1979/1980. We treated historically black institutions as a separate category, and we generally analyzed the data for black teachers separately (see Tables 1 and 2).

High-stable institutions. We labeled institutions that produced 60% or more high-scoring teachers in both 1973/1974 and 1979/1980 as *high-stable* institutions. These institutions showed the greatest percent decline in white teachers produced (34.71%). This overall figure is accounted for primarily by a decline in the number of teachers produced in the highest NTE rank. Although the percent decline in the lowest NTE rank (65.63%) is even greater, the actual numbers are very small and can probably be accounted for by a policy implemented during this period at the largest school in this category, precluding the admission of third-year transfer students into teacher training programs.

A common characteristic of the five teacher training programs in this category is the high admissions standards of the institutions that house them. Scores on standardized tests play a significant role in admissions decisions at these schools. Thus these teacher training programs are not in a position to offset declining enrollments by admitting low-scoring students.

High-declining institutions. Institutions with 60% or more of the teachers they graduated in the top two NTE ranks in 1973/1974 but fewer than 60% in the top two ranks in 1979/1980 we labeled *high-declining.* These institutions showed the smallest percent decline in the number of white teachers produced and a substantial percent increase in the number of black teachers produced (-16.14% white, +108.70% black). They also showed the greatest percent increase in low-scoring teachers produced (126.47%) and a percent decline in high-scoring teachers produced (42.34%) that nearly equaled that of *high-stable* institutions.

Thus it appears that *high-declining* institutions have offset the impact of a decline in the enrollment of high-scoring students by admitting more low-scoring students. None of the institutions in this category had rigorous overall admissions standards, and thus the teacher training programs were able to admit more low-scoring students when high-scoring students, in keeping with national trends, chose majors other than teacher education.

Moderate-stable institutions. Those institutions that produced a moderate proportion of high-scoring teachers (between 40% and 60% in the top two NTE ranks) both in 1973/1974 and in 1979/1980 we labeled *moderate-stable*. This category included only one institution, so it is of passing interest only. However, it is worth noting that even though the institution maintains its position and keeps a relatively stable level of production, the only

Table 1. Percent Change in Number of White Teachers Employed, By NTE Rank and Institution Type

		Rank					
Type of Institution		**1 Lowest**	**2**	**3**	**4**	**5 Highest**	**Total**
High-stable	1973/1974 N	32	49	86	158	378	703
	1979/1980 N	11	35	75	131	207	459
	% change	−65.63	−28.52	−12.79	−17.08	−45.24	−34.71
High-declining	1973/1974 N	34	99	153	233	274	793
	1979/1980 N	77	116	153	161	158	665
	% change	+126.47	+17.17	0	−30.9	−42.34	−16.14
Moderate-stable	1973/1974 N	9	27	31	40	37	144
	1979/1980 N	20	24	24	38	30	133
	% change	+122.22	−22.23	−22.58	−5	−18.92	−7.64
Moderate-declining	1973/1974 N	226	291	328	340	282	1,467
	1979/1980 N	259	274	281	193	159	1,166
	% change	+14.6	−5.84	−14.33	−43.24	−43.62	−20.52
Low-stable	1973/1974 N	841	771	636	527	377	3,152
	1979/1980 N	679	517	466	379	223	2,267
	% change	−19.26	−32.95	−26.73	−29.42	−40.9	−28.31
Low-improving	1973/1974 N	16	14	8	12	8	58
	1979/1980 N	10	12	13	16	13	64
	% change	−37.5	−14.29	+62.5	+33.33	+62.5	+10.35
Black colleges	1973/1974 N	16	9	7	8	10	50
	1979/1980 N	14	6	9	5	10	44
	% change	−12.5	−33.33	+28.57	−37.5	0	−12
Total	1973/1974 N	1,174	1,260	1,249	1,318	1,366	6,367
	1979/1980 N	1,070	984	1,021	923	800	4,798
	% change	−8.85	−21.9	−18.26	−29.97	−41.43	−24.64

category in which it recorded an increase in the number of teachers produced was the lowest-scoring category.

Moderate-declining institutions. Those institutions that produced a moderate proportion (between 40% and 60%) of high-scoring teachers in 1973/1974 but a lower proportion in 1979/1980 we labeled *moderate-declining*. These institutions showed a percent decline in the number of white teachers produced that was comparable to that of the *high-stable* institutions. However, like the *high-declining* institutions, the *moderate-declining* institutions showed an increase (though not nearly so great) in the number of teachers produced in the lowest category. Thus the increased number of low-scoring students offsets the decline in the number of high-scoring students. Although the number of black students in all categories is small, the *moderate-declining* institutions were not nearly as successful at increasing the number of high-scoring black students as either the *high-stable* or the *high-declining* institutions (see Table 2).

Low-stable institutions. Those institutions that produced fewer than 40% high-scoring teachers in both 1973/1974 and 1979/1980 we labeled *low-stable*. All of

Table 2. Percent Change in Number of Black Teachers Employed, By NTE Rank and Institution Type

		Rank					
Type of Institution		**1 Lowest**	**2**	**3**	**4**	**5 Highest**	**Total**
High-stable	1973/1974 N	1	0	0	2	7	10
	1979/1980 N	0	3	1	2	18	24
	% change	– 100	--	--	0	+ 157.14	+ 140
High-declining	1973/1974 N	0	2	1	6	14	23
	1979/1980 N	3	5	5	9	26	48
	% change	--	+ 150	+ 400	+ 50	+ 85.72	+ 108.7
Moderate-stable	1973/1974 N	0	0	0	0	1	1
	1979/1980 N	0	0	0	1	0	1
	% change	0	0	0	--	– 100	0
Moderate-declining	1973/1974 N	3	2	3	6	25	39
	1979/1980 N	7	9	12	18	14	60
	% change	+ 133.33	+ 350	+ 300	+ 200	– 44	+ 79.49
Low-stable	1973/1974 N	7	7	5	12	11	42
	1979/1980 N	21	18	27	41	18	125
	% change	+ 110	+ 157.14	+ 285.72	+ 241.69	+ 63.39	+ 197.62
Low-improving	1973/1974 N	0	0	0	0	0	0
	1979/1980 N	0	0	1	1	1	3
	% change	0	0	--	--	--	--
Black colleges	1973/1974 N	133	161	160	163	116	733
	1979/1980 N	141	113	130	117	71	572
	% change	+ 6.02	– 29.81	– 18.75	– 28.22	– 38.79	– 21.97
Total	1973/1974 N	144	172	169	189	174	848
	1979/1980 N	172	148	176	170	148	814
	% change	+ 16.27	– 13.95	+ 4.14	– 11.17	– 14.94	– 4.01

The type of institution does not significantly influence the declining quality of the teachers produced.

these institutions were heavily dependent on the production of teachers. Among them, they produced 49.51% of all the teachers hired in North Carolina in 1973/1974 and 47.25% of those hired in 1979/1980. The decline in the proportion of high-scoring teachers produced by the *low-stable* institutions is similar to the decline shown by *high-stable, high-declining,* and *moderate-declining* institutions. It seems clear that the type of institution does not significantly influence the declining quality of the teachers produced.

Low-improving institutions. Only two small private institutions produced fewer than 40% of their teachers in the top two NTE ranks in 1973/1974 and produced more than 40% in these ranks in 1979/1980. The changes were not dramatic, and, given the small number of teachers involved, not practically significant.

Black institutions. Because so few white students have been attracted to historically black institutions, we will not even try to make sense of the data on white teachers produced by historically black institutions. Black teachers produced by black institutions, however, follow patterns similar to those shown by white teachers produced by predominantly white institutions. For example, the black colleges produced 38.79% fewer black teachers in the highest NTE rank and 6.02% more teachers in the lowest rank in 1979/1980.

One pattern that is clearly evident from Table 2 is that there has been some movement of high-scoring students from the historically black institutions to *high-stable, high-declining,* and *low-stable* white institutions. We cannot say for certain why this is happening, but we can speculate that a combination of increased recruiting, especially by the more selective *high-stable* institutions, and such vaguely defined factors as differences in institutional status are among the leading causes.

Role of the Public Schools

Our data on the numbers of teachers being produced by North Carolina teacher training institutions derive from employment figures. Thus, not only are teacher training institutions producing higher proportions of low-scoring teachers, but the public schools are hiring them in proportionately greater numbers as well.

In fact, there is no evidence that public schools are any more likely to hire high-scoring teachers than they are to hire low-scoring teachers.[7] Laura Sharp and Sarina Hirshfield reported that public schools tended to favor teacher candidates with higher grades, but, when they adjusted for potential grade inflation, they found that the preference was not significant.[8]

There are a number of possible explanations for this apparent lack of discrimination on the part of public school systems. The first and most obvious is that the public schools simply disregard measures of academic achievement when they make hiring decisions. Another possibility is that the highest-scoring teacher education majors avail themselves of alternative employment opportunities, and the pool of high-scoring teachers is thus depleted. Finally, there is what we call the "brand recognition" factor. That is, public school employers may well prefer to hire the graduates of certain institutions over those of others. Thus it is conceivable that more selective institutions are successfully placing a disproportionate number of the few low-scoring teachers they produce. The data presented in Tables 3 and 4 do not provide a solid basis for choosing absolutely among these possibilities, but they do provide a basis for informed speculation.

Tables 3 and 4 compare changes in the share of the job market claimed by graduates of different types of institutions. (Again, we have treated the case of black teachers separately.) For example, Table 3 shows that in 1973/1974 the *high-stable* institutions claimed 11.04% of the new-teacher market in North Carolina; the *low-stable* institutions claimed a 49.51% share. In 1979/1980 the share of the *high-stable* institutions had declined to 9.57%, and the share of the *low-stable* institutions had declined to 47.25%. Thus the market had shifted slightly in favor of institutions in other categories.

Taken by themselves, these changes may seem trivial. After all, the *high-stable* institutions lost only 1.47% of the total job market during the interval covered by our data. But the *high-stable* institutions lost 13.31% of *their own share* of the market, and we believe that the relative gain or loss in market share is an important indicator of shifting control of the employment market for teachers.

In the case of black teachers, all the predominantly white institutions showed gains, especially the *high-stable* institutions (150%) and the *low-stable* institutions (210.3%). Meanwhile, the black institutions showed a decrease of 18.71% in their own share of the new-teacher market.

Certainly the numbers in some of these categories are too small to allow us to draw defensible generalizations. But, looked at holistically, they provide enough evidence for some justifiable conclusions.

First, black institutions are losing market shares of black teachers both in absolute and relative terms, and they are not making up for these losses by increasing their market share of white teachers. Moreover, there have also been some shifts in the market share of white teachers. In particular, *high-declining* and *moderate-declining* institutions have substantially improved their market shares, while *high-stable* and *low-stable* institutions have lost. In terms of absolute numbers, these data may not seem particularly significant, but the primary factor that accounts for the improved market shares of both *high-declining* and *moderate-declining* institutions is a substantial increase in the numbers of low-scoring teachers that they graduate. The *high-stable* and *low-stable* institutions, on the other hand, have shown substantial decreases in the numbers of low-scoring teachers that they graduate. These data clearly support the assertion that *high-declining* and *moderate-declining* institutions are maintaining, and even increasing, their share of the new-teacher market by increasing the numbers of low-scoring white teachers they produce. Coupled with the general increase among all white institutions in the numbers of black teachers graduated, the data become even more significant.

What's Going on Here?

Without further research and qualitative assessments, including interviews with officials and reviews of institutional policy, we can do no more than speculate on the meaning of these data. However, we feel obliged to offer some informed guesses that other researchers may use as hypotheses to guide their studies. We think these guesses are consistent with the data we have presented and are logically and theoretically sound.

First, we think these data offer substantial support for the idea that competition for scarce resources (i.e., students) both among departments within institutions and among institutions themselves is having an impact on the quality and quantity of teachers being produced by various institutions. For example, the *high-stable* institutions showed the greatest decline in the number of teachers placed in jobs. Meanwhile, the *low-stable* institutions (by far the largest producers of teachers) showed a large decline in the number of teachers produced. We suggest that *high-stable* institutions are most likely to suffer enrollment declines due to individual choices by high-scoring students and that *low-stable* institutions cannot increase the number of low-scoring teachers they produce, precisely because they have always admitted nearly all of those students who apply. It also seems likely that *moderate-declining* and *high-declining* institutions are able to attract some low-scoring students away from *low-stable* institutions, at least partly on the strength of their better reputations. The overall shift of black students to white institutions lends additional support to this thesis, because many of the predominantly white institutions in the *high-declining* and *moderate-declining* categories maintain better reputations – deserved or not – than the historically black institutions. Thus interactions among economic factors, individual choices, the pecking order of the academic marketplace, pressures to maintain enrollment, and policy initiatives account for some of the patterns in our data.

A second, less compelling explanation for these patterns is that high-ability teacher education graduates from the more elite institutions (i.e., *high-stable*, *high-declining*, and *moderate-declining*)

Table 3. Percent Change in Market Share for White Teachers, By NTE Rank and Institution Type

		Rank					
Type of Institution		**1 Lowest**	**2**	**3**	**4**	**5 Highest**	**Total**
High-stable	1973/1974 % market	2.73	3.89	6.89	11.99	27.67	11.04
	1979/1980 % market	1.03	3.56	7.35	14.19	25.88	9.57
	% change	– 62.27	– 8.48	+ 6.68	+ 18.35	– 6.47	– 13.31
High-declining	1973/1974 % market	2.90	7.86	12.25	17.68	20.06	12.45
	1979/1980 % market	7.2	11.78	14.99	17.44	19.75	13.85
	% change	+ 148.28	+ 49.87	+ 22.37	– 1.3	– 1.55	+ 11.24
Moderate-stable	1973/1974 % market	.77	2.14	2.48	3.04	2.71	2.26
	1979/1980 % market	1.87	2.44	2.35	4.12	3.75	2.77
	% change	+ 131.17	+ 14.02	– 5.24	+ 35.53	+ 38.38	+ 22.57
Moderate-declining	1973/1974 % market	19.75	23.09	26.26	25.8	20.64	23.04
	1979/1980 % market	24.21	27.84	27.52	20.91	19.88	24.3
	% change	+ 25.77	+ 20.57	+ 4.8	– 18.95	– 3.68	+ 5.38
Low-stable	1973/1974 % market	71.64	61.19	50.92	39.98	27.6	49.51
	1979/1980 % market	63.46	52.54	45.64	41.06	27.88	47.25
	% change	– 11.42	– 14.02	– 10.36	+ .79	– .78	– 4.56
Low-improving	1973/1974 % market	1.36	1.11	.64	.91	.58	.91
	1979/1980 % market	.94	1.22	1.27	1.73	1.63	1.33
	% change	– 30.88	+ 9.91	+ 98.44	+ 90.11	+ 176.71	+ 46.15
Black colleges	1973/1974 % market	.36	.71	.56	.61	.73	.79
	1979/1980 % market	1.3	.61	.88	.54	1.25	.91
	% change	– 4.41	– 14.08	+ 57.14	+ 11.48	+ 72.6	+ 13.92
Total	1973/1974 % market	18.43	19.79	19.62	20.7	21.45	100
	1979/1980 % market	22.3	20.51	21.28	19.24	16.67	100
	% change	+ 21	+ 3.64	+ 8.46	– 7.05	– 22.28	100

are less likely to enter teaching than are high-quality students who graduate from non-elite institutions. Simultaneously, schools that employ teachers may give preference to graduates from more elite institutions regardless of measures of academic ability (the "name brand" effect). Thus high-scoring teacher education graduates from elite institutions might refuse to take teaching positions, and public school employers, preferring to hire teachers from the more elite institutions, would have to hire the lower-scoring graduates of these institutions. Such an interpretation is consistent with data presented here, but our other research casts doubt on this explanation.[9]

Implications for Policy

Our research has convinced us that the quality of the teaching force will not be improved merely by raising entrance or exit standards in teacher education.[10] Policy makers must also attend to the conditions of the workplace and to the competitive position of teaching in the larger occupational structure. Institutions of higher education that raise or maintain already-high academic standards in the present occupational marketplace will

Table 4. Percent Change in Market Share for Black Teachers, By NTE Rank and Institution Type

				Rank			
Type of Institution		**1 Lowest**	**2**	**3**	**4**	**5 Highest**	**Total**
High-stable	1973/1974 % market	.69	0	0	1.06	4.02	1.18
	1979/1980 % market	0	2.03	.59	1.17	12.16	2.95
	% change	– 100	--	--	+ 10.37	+ 202.49	+ 150
High-declining	1973/1974 % market	0	1.16	.59	3.17	8.05	2.71
	1979/1980 % market	1.74	3.37	2.84	5.29	17.57	5.9
	% change	--	+ 190.52	+ 381.36	+ 66.88	+ 118.26	+ 117.71
Moderate-stable	1973/1974 % market	0	0	0	0	.58	.12
	1979/1980 % market	0	0	0	.59	0	.13
	% change	0	0	0	--	– 100	+ 8.33
Moderate-declining	1973/1974 % market	2.08	1.16	1.78	3.17	14.36	4.6
	1979/1980 % market	4.07	6.08	6.81	10.58	9.46	7.37
	% change	+ 95.67	+ 424.14	+ 282.58	+ 233.75	– 34.12	+ 60.21
Low-stable	1973/1974 % market	4.86	4.07	2.96	6.35	6.32	4.95
	1979/1980 % market	12.2	12.16	15.34	24.12	12.16	15.36
	% change	+ 151.03	+ 198.77	+ 418.24	+ 279.84	+ 92.41	+ 210.3
Low-improving	1973/1974 % market	0	0	0	0	0	0
	1979/1980 % market	0	0	.12	.12	.12	.37
	% change	0	0	--	--	--	--
Black colleges	1973/1974 % market	92.36	93.6	94.67	86.24	66.67	86.44
	1979/1980 % market	81.98	76.35	73.86	68.82	47.97	70.27
	% change	– 11.24	– 18.43	– 21.98	– 20.2	– 28.04	– 18.71
Total	1973/1974 % market	16.98	20.28	19.93	22.29	20.51	100
	1979/1980 % market	21.13	18.18	21.62	20.68	18.18	100
	% change	+ 24.44	– 10.74	+ 8.48	– 6.33	– 11.36	100

simply produce proportionately fewer teachers.

Such a policy will clearly place the most selective programs in jeopardy. But it will also jeopardize the least selective programs, because students who once enrolled in these programs will find that some declining institutions with residual reputations for quality are now willing to admit them. Thus those institutions that are willing to admit less-able students but have not always done so will enhance their shares of the teacher job market.

The data in this study provide strong evidence in favor of radical reform in the structure of the teaching occupation. Indeed, the major implication of this study is that the various commissions that have recommended upgrading of the occupational status of teachers must be heeded if we are to insure quality in the teacher workforce.

We would also like to suggest one additional short-term implication of our study. We believe that the current emphasis that state legislatures and various other policy-making bodies are placing on minimum standards only reinforces the patterns we have found. Teacher training institutions are clearly under pressure to maintain enrollment. If the only students they can attract are those who meet only minimum standards, they will perforce admit as many of these students as they need. If the only students they can graduate are those who barely meet the standards, then those students will be graduated. If only teachers who barely meet minimum standards are available for school systems to hire, then these are the teachers the school systems will hire. We believe that those institutions of higher education that are unwilling or unable to compete in this nonselective market will be forced to disband their teacher education programs.

One possible solution to the problems posed by this nonselective marketplace is the creation of incentives to encourage institutions of higher education to compete for and recruit high-ability students for their teacher education programs. Perhaps policy makers should shift their attention from establishing minimum requirements to establishing target distributions around the median of some widely used test score. For example, policy makers could insist that no more than 50% of any entering class in any teacher education program could score below the median for college-bound seniors on the Scholastic Aptitude Test (SAT) or some similar measure. Thus the size of the entering group would be controlled by the number of high-scoring students that institutions could attract. Similarly, policy makers might insist that the long-term failure of an institution to produce more than 50% of its graduates who score above the median on some exit test, such as the NTE, would cost a school its accreditation. At the same time, state education agencies might insist that school systems employ a teacher force that includes no fewer than 50% of those who score above some specified point on some measure of academic ability.

These recommendations will undoubtedly strike some readers as ill-informed. We are well aware that no convincing evidence links measures of academic ability to teaching effectiveness. Some people who score very low on measures of academic ability may become great teachers, and others who score well on such measures may prove to be totally incompetent. However, we believe that occupations that are primarily oriented toward academic pursuits should not implicitly give preference to those who show the least aptitude for academic tasks. The average teacher should be able to score at least as well on measures of academic ability as the average college-bound high school senior.

One of the strengths of proposals such as ours is that potentially good teachers who score substantially lower on tests than the average college-bound senior will not automatically be precluded from entering the profession. Under our proposal, measures of academic ability could be totally irrelevant for fully half of those who enter teacher education and, later, the teaching profession.

We do not argue for minimums. Like our critics, we accept the proposition that it is important for teachers to possess many qualities other than the ability to score well on standardized tests. However, we see no reason to adopt policies that favor those who do poorly on tests, as if that single criterion were the mark of potential to become an excellent teacher.

1. Samuel Peng, "Education Attracts Fewer High-Achieving Young Women," National Center for Education Statistics, *Bulletin*, December 1982; Alexander Astin, *The American Freshman: National Norms for Fall 1982* (Washington, D.C.: American Council on Education and University of California, Los Angeles, 1983); Phillip C. Schlechty and Victor S. Vance, "Do Academically Able Teachers Leave Education? The North Carolina Case," *Phi Delta Kappan*, October 1981, pp. 106-12; Victor S. Vance and Phillip C. Schlechty, "The Structure of the Teaching Occupation and the Characteristics of Teachers: A Sociological Interpretation," paper prepared for the National Institute of Education, contract NIE-P-81-0100, 1982; and Victor S. Vance and Phillip C. Schlechty, "The Distribution of Academic Ability in the Teaching Force: Policy Implications," *Phi Delta Kappan*, September 1982, pp. 22-27.

2. B. Othanel Smith, "Some Comments on Educational Research in the Twentieth Century," *Elementary School Journal*, March 1983, pp. 488-92; W. Timothy Weaver, "The Need for New Talent in Teaching," *Phi Delta Kappan*, September 1979, pp. 29-32, 46; and Phillip C. Schlechty and Victor S. Vance, "The Promotion of Quality in Teaching," *Fourth Annual American Educational Finance Association Yearbook* (Cambridge, Mass.: Ballinger, forthcoming).

3. Schlechty and Vance, "Do Academically Able Teachers Leave Education?. . ."; Vance and Schlechty, "The Distribution of Academic Ability . . ."; and Weaver, "The Need for New Talent. . . ."

4. Because status rankings among institutions of higher education are such a politically volatile subject, we have not provided precise numbers for the less-prestigious categories. We have also avoided specific examples. Our point is that North Carolina includes at least one (and often more) of almost every type of institution of higher education.

5. Schlechty and Vance, "Do Academically Able Teachers Leave Education? . . ."

6. Ibid.

7. Weaver, "The Need for New Talent . . ."; and Vance and Schlechty, "The Distribution of Academic Ability. . . ."

8. Laura M. Sharp and Sarina B. Hirshfield, *Who Are the New Teachers? A Look at the 1971 College Graduates* (Washington, D.C.: Bureau of Social Science Research, 1975).

9. Vance and Schlechty, "The Distribution of Academic Ability. . . ."

10. Schlechty and Vance, "Do Academically Able Teachers Leave Education? . . ."; Vance and Schlechty, "The Structure of the Teaching Occupation . . ."; and Schlechty and Vance, "The Promotion of Quality in Teaching." □

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Education and Certification: An Overview

Special Issue: Reform in Teacher Education
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Let's face it: Colleges of pedagogy will in all probability never overhaul their programs if each college is to do it alone. There are too many hurdles, too much disparity among institutions, too much institutional jealousy, too much divisiveness and lethargy among faculties, too much fear, and too much ineptness in the leadership. It is likely, of course, that one or two institutions will blaze a new path. But will others follow? Well, maybe. We won't know until some college really does it. It is more probable, however, that only forces broader and more powerful than those of a single college can ever break through these barriers and restraints to bring about a new day in pedagogical education.

(Continued on page 87)

Pedagogical Education: How About Reform?

by B. Othanel Smith

Our system for educating teachers must be thoroughly overhauled. That is the basic premise of this special Kappan. *Mr. Smith advocates a series of steps that would lead to truly professional schools of pedagogy. Officials of five major associations comment on his plan.*

(Continued from front cover)

These forces will be political as well as professional, external to colleges and universities, and guided by a new coalition of professional and lay organizations and their leaders.

Before going further, let me make clear that this article is not an apology or an alibi. Colleges of pedagogy have made significant contributions to public education. Fifty years ago the average teacher, especially in small towns and rural areas, had little more than two years of college work, and many had only a high school education or less. Today the minimum requirement for admission to teaching is a bachelor's degree, and about one-third of the nation's teachers hold a master's degree or more. Teachers have more academic knowledge, better understanding of human development, more positive attitudes toward children, and more competence in the procedures and techniques of teaching than teachers of any other period of our history. All of this has come about because of the elevation of pedagogy to a university study and the accumulation of research knowledge about teaching and its underlying disciplines.

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At the same time, demands upon teachers for more academic learning and pedagogical knowledge and skill multiply as diversity among pupils increases, as parental concern about the conduct of schools and the quality of teaching becomes more acute, as legal aspects of teaching become more complex, as every social malady is converted into an educational problem, as school and classroom disruptions become more severe, and as knowledge — academic and pedagogical — accumulates ever more rapidly. All of these conditions, and more, make teaching increasingly complex and place a heavy burden upon schools of pedagogy to meet the growing need for more thorough preparation of school personnel.

These new requirements, to say nothing of the old ones only partly met, can be satisfied neither by tinkering with the programs and facilities of pedagogical schools nor by inservice programs, no matter how brilliantly conceived, planned, and executed. Make no mistake about it, adding a course here and a course there, reshuffling academic requirements, screening candidates for admission, integrating methods courses and student teaching, or adding an internship will have little effect upon the ability of teachers to cope with demands upon them now made by the growth of knowledge, new social conditions, and a consumer-oriented public that knows what it wants only in general and abstract terms. Nothing short of thorough overhauling of pedagogical education will do.

Where Teachers Are Educated

Pedagogical education is provided by an assortment of nearly 1,400 institutions, of which some 40% are private senior colleges with fewer than a thousand students and with a mere handful of pedagogical instructors. The remaining 60% — about 800 institutions — are of varying descriptions and quality. These schools, like the senior colleges, are neither associated in a single organization nor accountable to any common agency for the quality of their product. Only the state in which they reside has jurisdiction over their programs. Naturally, such a loose collection of institutions can do nothing, save by chance, to advance whatever coincidental interest they have.

These 800 institutions are a mixed bag of private universities, newly created state universities, old-line state universities, universities recently evolved from teachers colleges, and independent schools of pedagogy. The hope for effective pedagogical education lies among these institutions, yet their colleges of pedagogy are powerless to act except alone and even then under crippling constraints. Whatever improvements they make individually seldom coincide and never add up to a new collective program.

Internal Obstacles to Reform

Leaders of colleges of pedagogy are confronted by formidable if not impenetrable barriers. Some of the more serious obstructions are internal, a fact that has led some critics to assert that colleges of pedagogy have only themselves to blame for their plight.

Fear of losing tenure runs deep in pedagogical faculties since enrollments have fallen off. Even in the best of times, colleges of pedagogy are fiercely competitive in their quest for students. Any proposed change in program is always scanned for its effect upon enrollment. A faculty member will think of how the change will affect his or her classes; a department chairman will measure the change against its effects upon courses and enrollment, and the dean will do likewise for the college as a whole. When it appears that a change might depress enrollment, it is not unusual for someone to say, "If they don't come here, they will go elsewhere. So what is gained?" Of course this is a reasonable reaction, and it underwrites the impotence of colleges to lift themselves individually.

One of the most baffling and stubborn constraints upon reform is the absence of common beliefs. Much can be said for differences in fundamental ideas. They can be animating influences pushing a faculty toward intellectual growth. But there is a limit to their benefits. When differences rend the fabric underlying community of thought, the basis of rationality is torn asunder; mutual stimulation among the faculty is stymied and the possibility of institutional reform is blocked.

Proponents of open education, basic education, competency-based education, social reform education, futuristic education, humanistic education, scientific pedagogy — you name it — divide college faculties into rival camps, afflicting them with schisms comparable to what would exist in medical schools were their faculties made up of chiropractors, osteopaths, shamans, and faith healers along with physicians and surgeons. In this medley of orientations, doctrines, and opinions, it is next to impossible for a faculty to agree upon anything resembling fundamental change in its program. Professors typically agree to tolerate their differences so long as each can go his or her own way, in the belief that these cleavages constitute the conditions of creativity and change. This is a strategy of wallowing in confusion with false hope.

Related to these cleavages is another set of internal restraints. Pedagogical study is treated as if it were general education. This is evidenced in the tendency to adjust instruction and standards of evaluation to the student's level, a practice justifiable perhaps in a liberal arts program when individual development is the goal, but reprehensible where the welfare of a profession's clientele is at stake.

Further evidence is found in the fact that pedagogy is considered to be an academic rather than a clinical study. Except for student teaching that is carried on almost entirely by public school teachers, pedagogical courses are taught by lecture/discussion, with the study of textbooks the primary learning activity. This practice is reinforced by faculty commitment to graduate study geared to erudition and ultimately to research competence rather than to competence in either teaching or the training of teachers.

> "The support of pedagogical education is . . . inadequate. . . . And this will be so as long as present state and university policies of financing the preparation of school personnel continue."

Moreover, many if not most courses are added to the college curriculum to satisfy the interests of instructors, although their value to teachers is often rationalized by objectives to which the courses do not lead. The criterion of instructor interest is appropriate for academic departments, but leads in a professional school to a multiplicity of courses having little content or relevance to the work of the professional. Some colleges offer more than 600 courses, the great bulk of which are there because of instructor interest or the pressure of ambitious departments rather than because they relate to the job requirements of teachers.

External Hurdles to College Reform

To the foregoing must be added certain external barriers. Money talks in colleges of pedagogy no less than in other colleges, but it speaks in a whisper. The support of pedagogical education is at a level inadequate for general college education. And this will be so as long as present state and university policies of financing the preparation of school personnel continue. Colleges of pedagogy in public universities are almost everywhere financed from state appropriations based upon full-time equivalent students (FTES). As a rule, universities prorate their appropriations among colleges, but not strictly by the FTES principle. Some colleges with low head counts may nevertheless be allocated funds in excess of what the FTES formula would require, and colleges with high head counts may, by the same token, receive smaller allocations.

In the years when registrations in colleges of pedagogy were high, part of their productivity was used to finance colleges with low enrollments. Funds thus generated were used to maintain or even to improve the status of other colleges instead of colleges of pedagogy. The university administration typically sees this policy as a stabilizing influence across colleges and departments. Some deans of pedagogy look upon the policy as a mixed blessing: a boon when enrollments are drastically dropping and a penalty when they are up and rising.

Over the years, productivity of colleges of pedagogy has been high, so that generally speaking they brought more funds into the university than they received. But this is petty compared to the fact that the FTES policy locks the college program into a mode of instruction appropriate to erudition rather than to clinical training. Prospective teachers, and those on the job as well, require a great amount of laboratory experience as they study exceptionality, pedagogical psychology, methods and curriculum, evaluation, and the social aspects of schooling. For laboratory work a 10:1 student/instructor ratio is a maximum, but it is a ratio unlikely to obtain under the FTES policy.

Some accommodation of this formula to the requirements of clinical study in pedagogy could be made, as in fine arts at some universities, were it not for the bias of university culture against pedagogy as a professional study. It is easy to remember that universities reluctantly admitted pedagogy as a discipline, at first only for secondary teachers and even then as an academic rather than a clinical study. It is unlikely that academic deans would trim the FTES formula to fit the needs of clinical pedagogy.

Moreover, the university reward system, as everyone knows, is stacked against the clinical instructor. Universities on the whole justify themselves by their contributions to accumulated knowledge and their preparation of those who wish to devote themselves to that end. Naturally, faculty members who prove themselves most apt at research and scholarly productivity garner the lion's share of recognition and financial reward.

It is not so generally known, at least beyond academic circles, that prestigious members of pedagogical faculties also adhere to and support this system of rewards and its underlying conception of pedagogy as a graduate discipline. No one can seriously entertain the notion that pedagogy can be advanced without research and scholarship. However, this should not be taken to mean that pedagogy is or should be a graduate study, except for the few who are inclined toward research and scholarly work. How to accommodate both the clinical and research components of pedagogy within the context of academic mores and policies is a question that defies answer.

The Static Years

Failure to deal with the foregoing impediments, many of which are the creation of the colleges themselves, has brought stagnation to pedagogical education. During the last 50 years, when knowledge was increasing by leaps and bounds, the basic pedagogical program remained practically unchanged. The sequence of courses established in the Thirties — introduction to education followed by social foundations, educational psychology, methods courses, and practice teaching — remains substantially unchanged today. To be sure, practice teaching has been moved from the university to the public schools, some changes have been made in the content of educational psychology, slight modifications have been made in methods courses, and so on. But these changes have made no difference in either the amount of time devoted to pedagogical study or methods of instruction and training. Pedagogy is still taught as an academic study, and, while practice teaching has a touch of reality, it is still conducted with a minimum of direction by public school teachers and with practically none by university instructors. That this static condition of pedagogical institutions should have obtained during the period when all sorts of so-called innovations were being devised and urged upon the schools by professors is, to say the best, peculiar.

Government Takes Over

The failure of the colleges to take matters into their own hands and to do something about their programs creates a vacuum into which state and federal governments are moving in response to public dissatisfaction with schools and teachers. Governmental actions are splintering pedagogical education — some of it drifting into teacher centers, some into state departments, some into Teacher Corps projects, and some into either private or school workshops. The remainder is in colleges and departments of pedagogy where it is disjointed, part of the work being on campus and part in the public schools.

More and more, the tendency is for state and federal legislatures to lay down directions, policies, programs, and even curricular content, which in turn are interpreted and transformed into regulations by bureaucratic agencies. They are staffed with persons who know little about pedagogical education and whose experience in it is even less.

However, departments and agencies are merely the instruments for carrying out the will of legislative bodies. These bodies, as already indicated, are daily becoming more concerned about the quality of school personnel and the effectiveness of the public schools. As they prepare legislation for the improvement of schools and institutions of higher education, however, the real barriers to the improvement of pedagogical education are overlooked. This is partly attributable to the fact that members of the legislature are poorly briefed and little time is provided for in-depth discussion of the issues and problems of pedagogical schools.

> "The failure of the colleges to take matters into their own hands . . . creates a vacuum into which state and federal governments are moving in response to public dissatisfaction with schools and teachers."

It must be remembered, also, that the problems of pedagogical education are but a fraction of the total range of issues with which legislators must deal. Then, too, they have no expertise in educational matters and must depend upon briefings by their staff and consultation with elements of their constituents. Legislators are poorly disciplined in the collection and use of knowledge. They constantly substitute for expert knowledge their own opinions, beliefs, and information fed to them through various pipelines from their constituents. While this is true in nearly every domain of legislative concern, it is especially true in pedagogy, for the knowledge base of pedagogy is still little known and ill-appreciated.

Their staffs are ill-informed about, and inexperienced in, the professional education of school personnel. In addition to all of this, legislators are continually running for reelection. This consumes a large part of their time and energy, for they must keep their ears tuned to the folks back home as well as to the problems and issues of state. Then, too, legislation depends as much upon strategic obfuscation (to borrow an expression from the late T.V. Smith), trade-offs, and cloakroom deals as upon consideration of relevant knowledge and societal values.

The domain of legislative activity is in matters of value and policy, but these matters are best attended to when they are suffused with scientific knowledge. Unfortunately, outstanding pedagogical researchers and scholars, to say nothing of practitioners, all too often give conflicting information. And it is not uncommon to run into cases where scientific judgments are influenced by emotions. When spokesmen for pedagogy state judgments with certainty that they can support only with the weakest of probability (if at all), and when they give conflicting testimony on the same issue, all research evidence and testimony are likely to be thrown into disrepute. Legislators have enough difficulty in reconciling differences in values and notions of policy, without having to confront these issues with conflicting evidence from pedagogical practitioners, scientists, and scholars.

In this morass, federal education agencies have been less than helpful. But the new Department of Education can be useful without becoming involved in legislation simply by establishing communication with the colleges. Federal investment in research centers and laboratories has had little effect upon teacher training institutions. Their faculties know very little about the research of these federal agencies, and what they do know is more a subject of discussion than a means of improving the education of teachers. While neglect of this research is to be attributed in part to college faculties, it is mostly due to the federal agencies themselves, particularly the National Institute of Education (NIE). These agencies have repeatedly skirted the colleges, going directly to the public schools. The NIE, for example, has recently promoted and supported efforts to change school practices through dissemination and diffusion of research findings directly to the schools. The colleges of education, where some 200,000 teachers are produced each year and where the largest pool of trained personnel for the interpretation and application of research to educational practice is to be found, were thus almost completely circumvented. Furthermore, the faculties of these institutions carry on programs of inservice preparation unequaled in their scope and depth by those of any other set of institutions or agencies. One can only wonder how much better recent state education laws might have been and how much advancement could have been made in the education of teachers at both pre- and inservice levels had avenues of communication between NIE and the various laboratories and centers it supports been established and maintained with the colleges of pedagogy.

Toward a Way Out

Is there any way to replace the present hodgepodge of institutions now offering work in pedagogy with genuine professional [illegible]? Some authorities think that [illegible] possible, at least in the foreseeable [illegible]. Many others are settling for a [illegible] change here and a little there as state legislatures become impatient and act. Just now the possibility of a fifth year of teacher education is riding high. Legislated as an internship, it entails little or no change in the campus program or modification of state and university policies now controlling and financing colleges of pedagogy. These minor changes are viewed as progressive steps. But toward what? There is no goal, no picture of pedagogical education toward which such changes count as steps.

Nevertheless, more than this can be attained in the near future if leaders of the profession unite to establish professional schools through legislation in state after state. But we cannot count on legislation to this end if legislative bodies are left to their ordinary counsel and to the conflicting views and pressures of the profession. We need a coalition of leaders, a coalition whose sole purpose is to see that legislative bodies are properly informed, advised, and influenced with respect to preservice pedagogical education.

Whatever the differences among various professional organizations — the American Association of Colleges for Teacher Education, the American Educational Research Association, the American Federation of Teachers, the Association for Teacher Education, the National Education Association, and others — arising from organizational interests and ambitions, these differences should not lead them to be at odds about the preparation of school personnel. For it is to the benefit of all of these organizations, whatever their particular goals and persuasions, that preservice education be raised to the level of effectiveness and credibility to which the responsibilities and significance of the profession entitle it. The teaching profession will come into its own when its members are highly prepared at the preservice level, and when they can point with pride to colleges of pedagogy as the institutions from which they come and to a few such colleges as famous institutions where the highest quality of training and research are being practiced.

> "We need a coalition of leaders . . . whose sole purpose is to see that legislative bodies are properly informed . . . with respect to preservice pedagogical education."

The various professional organizations have been, and largely continue to be, preoccupied with inservice education. This is understandable in terms of the concern of school administrators and supervisors with upgrading teachers. But preoccupation with inservice education is not understandable as an approach to the problem of raising the professional level of teaching and of improving the public image of the profession itself.

For a solution to the twin problems of how to improve both pedagogical education and the public image of the profession, inservice education is the wrong way to go. In the first place, it is a mammoth task in which the numbers are simply overwhelming. There are over two million teachers, of whom approximately two-thirds hold only a bachelor's degree. The resources for increasing their level of performance are totally inadequate. College faculties are largely used in preservice programs and would be almost completely absorbed in that function were the programs adequately developed. Experienced teachers, however well prepared, have neither the time nor the energy to assist with inservice training functions. And it hardly need be added that teaching loads and collective contracts allow little time for teachers to exchange tricks of the trade, let alone engage in serious study.

For another thing, colleges of pedagogy in the U.S. are now producing some 200,000 teachers per year, and within another five years may be turning out nearly as many as they were before the slump began. In each five-year period one million new teachers are added to the ranks. The output of ineffective preservice programs adds up to a stream of ill-prepared teachers greater than any inservice program can possibly cope with, even a program more extensive than anyone is ever likely to see.

What is the way to go? The first step, indeed the necessary first step, is to organize the leaders of the professional organizations and selected leaders of the colleges. The purpose should be to develop a meeting of minds with respect to the issues and problems of preservice education and the role of these organizations in dealing with the issues and problems. Probably the first order of business would be for the leaders to learn to work together and to build a measure of trust among themselves. The deliberations of this group would, one hopes, lead to the creation of a commission on preservice pedagogical education — a commission of prestigious laypersons and leaders of the pedagogical profession — to prepare a comprehensive plan and a strategy for creating professional schools of pedagogy.

Although the commission should consider all the conditions affecting pedagogical schools, it should be concerned primarily with the external conditions that prevent their conversion into truly professional institutions. These external conditions are frame factors that shape the structure and operation of pedagogical schools, and they apply universally, irrespective of the idiosyncratic differences from school to school. They are always present, regardless of the school's setting, its age, its faculty, or its standing. If these frame factors are modified — formulas by which schools of pedagogy are financed, time requirements for degrees, instructor/student ratios, autonomy in relation to state and federal departments of education, accreditation policies and procedures, and licensing policies and procedures — it would then be possible for

The "four recent studies" Smith mentions on page 91 as basic documents for his proposed commission are available as follows:

Howsam et al., *Educating a Profession*, was published in 1976 by the American Association of Colleges for Teacher Education, but is now out of print. It may be ordered from University Microfilms, attn. Books on Demand Program, 300 N. Zeeb Rd., Ann Arbor, MI 48106, paper $23.30, cloth $28.30. Both the Clark/Guba study and the Denemark/Nutter work can be obtained from ERIC. *Studies of Knowledge Production* . . . is ERIC: ED 139 805, price 98 cents; *The Case for Extended Programs* . . . is ERIC: SP 015 395, but co-author George Denemark will send you a copy for $1.25. Address him as Dean of Education, University of Kentucky, Lexington, KY 40506. The Smith et al. book should be available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 by the end of October. No price had been established at press time, but the stock number is 017-080-02098-0.

colleges of pedagogy to deal with internal conditions and thereby to reform their programs, modes of instruction, admission policies, and evaluation of student progress.

In addressing the external factors, the commission need not start from scratch. They have been dealt with extensively in four recent studies: *Educating a Profession*, by Robert B. Howsam, Dean C. Corrigan, George W. Denemark, and Robert J. Nash; *Studies of Knowledge Production and Utilization Activities in Schools, Colleges, and Departments of Education*, by David L. Clark and Egon G. Guba; *The Case for Extended Programs of Initial Teacher Preparation*, by George Denemark and Norma Nutter; and *A Design for a School of Pedagogy*, by B. Othanel Smith, Stuart H. Silverman, Jean M. Borg, and Betty V. Fry.

Although the first two of these studies were issued four years ago and the other two in the last six months, they have been seriously addressed neither by teacher training institutions nor by organizations concerned with the problems of pedagogical education. These studies deal with the frame factors that cut across all pedagogical institutions as well as conditions within institutions that impede the development of adequate programs of pedagogical education.

It should be the first responsibility of the commission to come to grips with the issues raised by these reports and to deal with the frame factors over which single institutions can exercise little if any influence. It is here that the first steps toward the improvement of pedagogical education must be taken, for unless these frame factors can be constructively modified it is unlikely, indeed apparently impossible, that pedagogical schools can be transformed into genuine professional institutions.

Since these frame factors are embedded in state and federal laws and regulations, in policies of university boards of control and local boards of education, in court decisions, and in the policies of accrediting agencies, the commission will doubtless explore the legal and political dimensions of the conditions that now preclude the reform of pedagogical schools.

Anyone familiar with the special interests and competitiveness of professional organizations, with the tendency of pedagogical faculties to believe that it is creative and progressive for each college to do as it pleases, and with the delays and conniving of public office need not be told that the route suggested will be next to impossible to negotiate. The major hurdles are, first, to secure enough cooperation and agreement among professional groups to establish and maintain a coalition and, second, to create a movement that can be sustained long enough to see the program phased into legislation and institutionalized. To accomplish this it will be necessary for the professional leadership of each state to organize itself for collective action in order to inform the public and mobilize political forces to support legislation consistent with the work of the commission.

The upshot of all of this is that our professional organizations, whatever their differences, must now dedicate themselves cooperatively to the cause of public education as it is reflected in the colleges that prepare those who are to be the models, companions, guides, and instructors of our children and youth for almost a quarter of their lifetimes. Now is the time. Both the public and state governments are in the mood to act constructively. But they are floundering. They need leadership from the profession. If the leadership cannot put itself in order, the constructive mood of legislative bodies will evaporate. It is not unlikely that a decade of punitive legislation will then be ushered in, and the chances for significant advancement of teaching as a profession will have been lost for at least a generation. □

Responses to 'Pedagogical Education: How About Reform?'

A Commission Must Include School Board Representation

by Thomas A. Shannon
Executive Director
National School
Boards Association

Thomas A. Shannon

Smith's diagnosis of the internal and external barriers to pedagogical education reform are perceptive, and his conclusion that any genuine effort at reform must encompass education associations and the public is sound. But he does not go far enough. In his proposal for a national commission on the reform of pedagogical education, he does not include those *citizens* most directly concerned with the quality of teaching in our elementary and secondary schools: local school board members. The days when concern for reform was the exclusive province of the professional educator are long gone.

In the past, school boards have played a minor role in some of the decisions that affect the quality of teaching, most notably pedagogical reform. Not so today. In September 1977 a special task force of the National School Boards Association on "Teacher Competency, Training, and Evaluation" concluded that school boards and their associations should conscientiously turn their attention to improving all aspects of the quality of teaching in the public schools because it is timely, right, and within their responsibility to do so. While the NSBA task force recognized that there was a great deal more than pedagogical reform involved in any successful effort to improve the quality of teaching, it did call for expanding the knowledge about teaching and learning. For Smith's idea to work, the commission on pedagogical reform must include school board representation.

ECS Willing to Help Make Commission A Reality

by Warren G. Hill
Former Executive
Director
Education Commission
Of the States

Warren G. Hill

Smith's call for professional organizations and selected leaders of colleges to reach an understanding about the need for reforming preservice education for teachers is commendable. It should be heeded by state-based and other professional organizations. I support his general concerns, but I suspect that his great commitment to improved teachers has led him to some overstatement.

Smith's article implies a general criticism of the inservice education work of teacher centers, the Teacher Corps, and state departments of education. While inservice education may not be the solution to the problem of teacher preparation, these efforts are not wasted if the products are better-prepared teachers. Perhaps Smith means that inservice education by itself is not enough, that the problem must also be attacked at its source — preservice training. There will always be a need for inservice education, as the other professions have discovered, if there is to be continued professional growth and development of individuals.

The oversimplification of two other points also troubles me. First, state legislators can handle any information if the information is correctly presented. Legislators are not necessarily inept. Rather, it is my experience that most education research writers are inexperienced in communicating — especially with legislators. The second oversimplification is the criticism of federal agencies, particularly the National Institute of Education, for neglecting the much-needed research in this area. While there is definitely room for improvement, we should consider whether university-based researchers failed to produce the useful results promised when given opportunities in the late 1960s. When expectations often went unrealized, NIE and other federal agencies looked to other sources. Perhaps the recently established Intergovernmental Advisory Council for the Department of Education, chaired by Florida Governor Robert Graham, who is also the Education Commission of the States (ECS) chairman, will be able to bring this problem into focus.

Smith does present a strong statement of the problem and potential solution. ECS shares the basic concern he raises. A commission — composed of representatives from all segments of the education community, including board members, parents, teachers, administrators, and students — would be most helpful. ECS would be willing to work with professional organizations, other state-based groups, and individuals to help make this commission become a reality. We must begin now if we are to meet the challenges of the 1980s.

Applause from NEA For Smith Proposals — and Doubts

by Sharon Robinson
Director, Instruction and Professional Development
National Education Association

We applaud the call for reform of teacher education. We also agree with Smith's necessary first step: namely, "to develop a meeting of minds with respect to issues and problems of preservice education."

Sharon Robinson

Simultaneously, we have some doubts about the early creation of a coalition "whose sole purpose is to see that legislative bodies are properly informed, advised, and influenced." A coalition might fare better if it were to limit its function to the identification of problems and issues and a meeting of minds about them. Perhaps educators would begin to develop positions from a more common data base.

We also doubt the wisdom of creating a commission which would be primarily concerned with "external conditions" that prevent teacher preparation institutions from being converted to truly professional institutions. We do not fault the intent of the suggestion but, rather, we should clearly acknowledge by our actions that there is no collective leadership of educational groups ready to confront legislative bodies with the presumption of correcting the "external conditions" that inhibit preservice preparation of teachers. Therefore, we are back to rung one of the ladder. What are the agreed-upon issues and problems of preservice education?

The process of establishing such agreements is in itself an enormous task. For example, we disagree with some of Smith's premises about issues. However, this fact only gives further credence to the importance of building consensus among educators for identifying critical issues and problems and their implications.

When Smith categorically states that "professional organizations have been, and largely continue to be, preoccupied with inservice education," it becomes clear that we must also be concerned with facts. There are several organizations, among them the NEA, that have long histories of concern, interest, and action programs in both the preservice and continuing education of teachers.

We support the thesis that we must move to [illegible] some consensus about preservice teacher education. We further believe that establishing appropriate public policy is a critical issue. However, before we instruct the public policy makers we must surely have some semblance of consensus about the nature of a knowledge base for teacher preparation and continuing education of teachers. This is a multiple problem, involving research development, knowledge utilization, conventional wisdom, and experiential learning. Creating a climate for consensus around such a fundamental necessity as a knowledge base for teacher preparation may provide a basis for building the trust sought by Smith as well as provide the glue for a coalition.

Let's Study Pedagogy With a Coalition Already in Place

by Paul Salmon
Executive Director
American Association of School Administrators

There is no substitute for high-quality teacher education programs. The most well-founded policies and the most astute plans for delivering education to students will rise or fall, depending upon the quality of teaching in our schools.

The American Association of School Administrators (AASA) is moving forward on several fronts to determine what changes might be needed in teacher preparation programs and to assure that those changes take place. Through the AASA Advisory Committee on Higher Education Relationships, through our active involvement with the National Council for Accreditation of Teacher Education (NCATE), and through hundreds of AASA members directly involved in higher education, our organization has exercised leadership in this vital area. We have even initiated a special newsletter, *The Professor*, to carry current information and ideas to our higher education members. Smith's article argues that a great deal more must be done. I agree. Fortuitously, Smith may have called for a coalition that is already in existence. Perhaps the Forum of Education Organization Leaders or the Educational Leaders Consortium should consider an in-depth discussion of Smith's remarks. The forum is already at work on a project to improve confidence in American education. Nothing is more basic to this effort than delivering an outstanding product.

Paul Salmon

AASA recently asked that teachers be permitted involvement as members of NCATE visitation teams. We would also like to see school district administrators serving on advisory committees to teacher training institutions. Advice from the field can lead not only to a more relevant program but also to grassroots support for the changes so many of our colleagues in higher education would like to see take place.

In a recent AASA Critical Issues Report, *Teacher Competency: Problems and Solutions*, our association addressed this important issue. It should be high on the agenda of all people and organizations who care about excellent education.

The Most Important Education Agenda Idea for the Eighties

by David Imig
Executive Director
American Association Of Colleges for Teacher Education

Smith has presented an exceptional analysis of the constraints and problems facing today's schools, colleges, and departments of education. He has developed the professional program's structure and content at a time when the Carnegie Foundation for the Advancement of Teaching plans to mount a major teacher education study.

debates continue among congressional staff members over the relevance of federal support for schools, colleges, and departments of education; and legislators attempt to abandon past commitments to college-based teacher education programs. With the growing interest in competency testing for recent college graduates entering the teaching force, and with national news media giving greater and greater attention to the difficulties of practicing teachers, it is in the public's interest to pay close attention to Smith's recommendations.

Unfortunately, Smith's proposal for an education organization coalition to reorganize and extend the teacher education knowledge base is only a limited step. Coalitions already exist: The Associated Organization for Professional Education has been in the community for a generation; the National Council for Accreditation of Teacher Education (NCATE) is also well-known. Both have spent an inordinate amount of time on definitions of top-quality professional preparation.

David Imig

To move forward will necessitate political action, including a coalition under the aegis of the American Federation of Teachers (AFT) and the National Education Association (NEA). Whether these teacher unions can put aside their rivalries to face professional concerns is uncertain; however, the resultant political power in the state and federal legislatures and executive offices could be considerable.

Another impediment may be the legacy of bickering between the organizations and higher education. In the past, three major issues have largely precluded national cooperation between teacher organizations and higher education-based teacher educators: the extent of teacher involvement in the professional accreditation and evaluation of college-based programs; the role of higher education in local school-site teacher centers; and significant shifts in governance and control of teacher licensing and certification at the state level. These issues are being resolved, and teacher organizations and higher education-based educators increasingly find themselves on common ground as a result of efforts by the 11-member Forum of Education Organization Leaders and similar interorganizational groups.

Initial action must deal with the unwillingness or inability of higher education institutions to commit their resources to pedagogical programs. This country's parents, youth, and teachers can no longer afford schools of education that are treated as second-class citizens within the university community. The university itself must strive to change traditional values, reward systems, class loads, and financial support systems to enable us to develop true professional teacher education programs.

AACTE is endeavoring to develop a common agenda with AFT and NEA; we must broaden the circle of agreement with wider coalition. There is no more important agenda in education for the 1980s.

State Education Policy In Transition: Teacher Education

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by Hendrik D. Gideonse

Current state-level policy initiatives in the area of teacher education are not likely to provide many lasting benefits, says Mr. Gideonse. But teacher educators can take positive steps to help improve the preparation of teachers.

TEACHER EDUCATION has figured prominently in the current surge of interest at the state level in the reform of education. Indeed, so much activity of such complexity has taken place in the states that federal policy making may sometimes seem simple by comparison. Nor has all of this state-level action always succeeded in matching state policy to the broader professional purposes of teacher educators.

REASONS FOR STATE ACTION

It is not difficult to find reasons for the increase in state-level attention to teacher education. After all, the authority to regulate teacher preparation is vested in the states. States are responsible for defining the qualifications for certification and licensing of teachers, and this responsibility includes defining the nature of the training programs, the standards by which those programs should be evaluated, and the processes of evaluation.

Two national mechanisms for regulat-

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The public sees the training of teachers both as a partial explanation of problems in the schools and as a potential solution.

ing teacher education do exist: the standards and evaluation procedures of the National Council for Accreditation of Teacher Education is one; the practices followed by members of the National Association of State Directors of Teacher Education and Certification to achieve reciprocal certification among the states is the other. But both of these mechanisms are voluntary. Therefore, the onus for regulating teacher education falls squarely on the states.

The states have also begun to move to reform teacher education because the public sees the training of teachers both as a partial explanation of problems in the schools and as a potential solution. Many people are dissatisfied with the accomplishments of the educational system and are concerned about the quality of teachers. They are also concerned about the tremendous cost of public education relative to the quality of the benefits received. They see improving the quality of teachers, largely through better or more selective teacher education programs, as one way to improve the return on their investment in public education.

A number of underlying causes exist for this dissatisfaction with education in general and with teachers in particular. The following list, though long, is far from exhaustive:

- the quasi-professional status of teaching;
- the poor economic incentives for entering and staying in teaching;
- the growth of school-board-sanctioned unionism among professional educators (including both teachers *and* administrators);
- the lessened availability of highly capable women and minorities for the teaching force;
- the fact that career advancement for teachers entails leaving the classroom;
- the fragmentation of educational policy development and implementation; and
- the high degree of government regulation of public education.

Efforts to change any one of these underlying causes for public dissatisfaction with teachers (and thus with teacher preparation) will impinge on the others. In addition, recruitment of teachers, admission to teacher training programs, the nature of those programs, and the relationship of teacher training to state certification and the hiring of teachers will all be affected by actions taken to address any of the problems listed above.

ACTION IN THE STATES

Let me organize under three headings my discussion of the efforts of individual states to reform teacher preparation: where the policy initiatives are coming from, the kinds of initiatives that are being taken, and the difficulty of monitoring changes as the initiatives are debated and put into practice.

1. *Where the initiatives are coming from.* In most states, policy affecting teacher education has typically been made by a combination of at least five different agencies: the legislature, the governor's office, the executive-branch agencies for K-12 and higher education (sometimes combined into one), the state board of education, and a higher education policymaking body. More recently, special commissions, legislative commissions, task forces, and the like have created a plethora of temporary avenues for educational policy making, and all parties have been busily engaged in widening the access to educational policy making.

This development is clearly healthy. It reflects a serious concern with education, and it has substantially increased the pressure to reform the system that is placed on those with de jure responsibilities for education. In addition, the more effective functioning of between-state communication networks among governors, legislators, and state boards of education has created a situation in which state-level initiatives can have their origins outside a given state. This phenomenon is a significant change from the past.

2. *The range of initiatives.* The range of policy initiatives in teacher preparation is broad, and the forms these initiatives have taken are diverse. They include statutes, executive orders, administrative regulations, budgetary discretion, planning initiatives, and the application of legislative oversight. More specifically, the following kinds of proposals for reforming teacher education have been made:

- testing candidates for teacher education;
- specifying grade-point averages for teacher education candidates and graduates;
- testing graduates of teacher education programs prior to certification;
- offering scholarships or forgivable loans to teaching candidates, generally in fields in which the need for teachers is acute;
- defining (usually raising) institutional standards for teacher preparation programs;
- revising certification standards and the programs aimed at meeting those standards;
- requiring university faculty members in teacher education to have periodic hands-on experience in the schools;
- encouraging (or requiring) closer relations between school districts and teacher education institutions;
- providing so-called "alternative routes" to teacher certification;

- establishing career ladders and/or master teacher programs;
- ending the use of permanent certificates and requiring periodic recertification: and
- creating new institutions and approaches to inservice education.

All the foregoing initiatives impinge directly on institutions that train teachers. However, other proposals that have an indirect effect on teacher education are also important:

- raising salaries for teachers;
- regulating (or legislating) the conditions of practice (e.g., limiting the number of students that secondary teachers may face in a given week or defining maximum pupil/teacher ratios);
- raising high school graduation or college admission requirements; and
- establishing merit pay plans.

These proposals would affect state policy in the area of teacher education either because they would raise the quality of teacher education candidates by limiting access to higher education in general or because they would increase the incentives for talented undergraduates to enter teacher education.

3. *The difficulty of monitoring changes in the states.* A major difficulty in undertaking an analysis of state-level policy making in teacher education stems from the continually changing shape of the various reform proposals. Proposals sometimes become policy in their original form, but more often they do not. Some proposals are adopted promptly — and then repealed just as promptly. Some insignificant proposals receive a great deal of attention in the media, while other, more important changes go unreported.

In most cases, the meaning of a specific proposal cannot be fully appreciated apart from the context of the specific state in which it emerged. That includes the historical context. For example, some states that have shown no activity recently may be reaping the fruits of their foresight in the late Seventies. Or changes that would appear regressive in one state could represent real advances in another. Keeping tabs on the ebb and flow of action in the states is nearly impossible.

A FEW GENERALIZATIONS

Despite the difficulty of tracking change in state-level policy, it is nevertheless possible to offer a few generalizations. For instance, we can look at which reforms are more popular than others and attempt to explain why this is so.

Easily the most popular of the policy initiatives being undertaken by the states is some form of testing of teacher education candidates and graduates. The next most frequently proposed reforms involve some form of alternative route to certification, some sort of scholarship or loan-forgiveness program, and some form of incentive pay for teachers, i.e., merit pay/career ladder/master teacher programs. Wholesale changes in certification packages or in institutional standards by which teacher education programs are judged are seen less frequently.

Even so, the diversity of the specific changes in the states remains the most salient feature of the current reform movement. And that diversity is more than matched by the differences in the climate for the reform of teacher education in each of the states.

Consider, for example, the differences among such states as Texas, with its Perot Commission; Florida, with its Quality Instruction Incentives Council; Arkansas, where a furor rages over proposals to test teachers already in the classroom; Ohio, which is now moving from its major revision of teacher education in 1980 to a second generation of changes; California and Tennessee, with their comprehensive legislative packages; and New Jersey, where the reins controlling teacher education are in the hands of politicians, and the professional education community is seriously divided. In Ohio, there has been vigorous but amicable interaction among politicians and professional educators. In Tennessee, the collaboration was a bit longer in coming, but the result was effective compromise. In Arkansas and New Jersey, initiatives taken outside the normal policy-making channels have touched off battles, few of which have been (or I think will be) won by professional educators.

What we need is a box score for the types of state policy initiatives that bear on teacher education.[1] Failing that, let me look at the kinds of proposals most frequently put forth and consider what accounts for their appeal.

Testing. Proposals to test teachers (of which I am a strong supporter) have the advantage of being relatively easy to implement, once an appropriate measuring instrument is chosen. In addition, the tests address a significant concern of the public, and they are not expensive — though their indirect costs, both politically and professionally, could be substantial. However, testing contributes only indirectly to the recruitment of teachers, by letting the public and policy makers know that teacher educators know what they are prepared to reject.

But for all their popular appeal, testing proposals must be understood as only a first step in the reform of teacher preparation. Tests will not improve the overall caliber of those who wish to enter the profession; they will merely deny access to those less than minimally qualified — a necessary, but hardly a sufficient, goal.

The most popular of the policy initiatives being undertaken by the states is some form of testing of teacher education candidates and graduates.

Tests will not directly affect the conditions of practice, which constitute such strong disincentives for those who might otherwise choose to enter the teaching profession. Nor will tests improve the teacher education curriculum or make new resources available to the institutions that prepare teachers. Moreover, tests can measure only what prospective teachers *know* — not how well they *perform.*

Finally, despite our national fascination with test scores, testing teachers or teacher education candidates is likely to run afoul of long-standing debates within teacher education that the tests will doubtless prove unable to resolve. Although some reformers are firmly convinced that there is an important core of knowledge that all prospective teachers ought to possess (and I concur), others disagree. The profession has come to no solid consensus as to what knowledge is "in" and what knowledge is "out." Other problems that the testing of teachers will surely bring to the surface are the inadequacies of other components of our educational system. We may find that identifiable subgroups of the teacher population, such as minorities or the graduates of rural schools, are scoring significantly below national averages; the social implications of such findings are difficult to predict and are likely to be troubling.

In short, testing as a screen for entry into the profession of teaching has all the benefits of a "tough" approach that is both necessary and easy to implement. But it is a relatively blunt approach that, by itself, is likely to prove only minimally effective.

Alternative routes to certification. States are also choosing a second kind of quick-fix solution to the problems of teacher education: the provision of alternative routes to certification. These proposals vary from new forms of emergency certification that require a candidate to enroll in a teacher education program while he or she is teaching, to the New Jersey proposal, which I believe is not conceptually sound, administratively feasible, or professionally responsible.[2]

Alternative routes to certification are

I must predict that the current state-level policy initiatives in teacher education are not likely to provide many lasting benefits.

based on a number of sometimes conflicting assumptions. For example, those who support such proposals often assume that people choose not to enter teaching because they are turned off by teacher education programs, that people who choose to enter teaching later in life ought to undergo a streamlined program of preparation, or that teaching is something anybody who knows the content to be taught can do with a little mentoring from an experienced teacher. Any of these assumptions may be true for some individuals, somewhere, sometime. But such reasoning is a questionable foundation for public policy.

Scholarships and loan forgiveness. These financial aid proposals are more defensible as ways to improve the quality of the teaching force because they are responsive to recruitment needs. It is certainly true that some talented individuals do not enter teaching because they cannot afford the cost of attending college. Others may demand that their investment in a college education pay greater financial dividends than a career in teaching is likely to yield. To the extent that financial aid proposals attract capable people to teaching — even if such people remain in the profession only through the period of their loan obligation — such efforts are valuable. In the long run, however, they will not be very effective, because the number of qualified people attracted to teaching by such programs will be small indeed.

Incentives. Proposals to offer incentives, monetary or professional, to attract talented people into teaching have surfaced in a number of states and in a variety of forms. Some are merit pay programs, some are more correctly characterized as career ladders, and others take the form of master teacher programs. There is not space here for a detailed discussion of the different proposals put forth in such states as California, Tennessee, Florida, Nebraska, Illinois, and Maine. Real financial and professional incentives could attract individuals with higher academic qualifications to schools of education. To the extent that this happens, teacher educators must also upgrade their curricula and professional aspirations accordingly.

Overhauling certification packages and institutional standards. So far, very few policy initiatives have attempted a complete overhaul of certification packages or of institutional standards. This is mute testimony to the size and complexity of such tasks. Certainly the benefits to be derived from such far-reaching changes are attractive from a professional standpoint. However, nothing so highlights professional differences as the prospect of fundamental change in either the content of professional certificates or in the standards by which institutions that offer professional training are judged.

PREDICTIONS

Based on performance to date, I must predict that the current state-level policy initiatives in the area of teacher education are not likely to provide many lasting benefits. I offer this pessimistic assessment for several reasons. First, the leadership in teacher education is widely, but thinly, distributed throughout the states. Second, even where such leadership exists, there is a deeply rooted tendency on the part of state policy makers not to listen to that leadership. Third, teacher education is divided geographically and organizationally within its own ranks, as well as from the larger profession, which is itself divided into rival camps of teachers and administrators.

This pessimistic assessment is shared by many state-level policy makers, who unfortunately misinterpret it to mean that teacher education is hopelessly beyond reform. Those of us in teacher education need to be aware of the fervor with which some people believe that teacher education is bankrupt. Can we muster enough evidence to convince others that this belief is fundamentally wrong?

Despite the gloominess of my prediction that the current wave of reforms will have very few lasting beneficial effects, teacher educators can take positive steps to help improve the preparation of teachers. To begin with, we need to be candid about our shortcomings. But we must also acknowledge the constraints under which we labor, which go some way toward explaining the problems that beset us.

Teacher educators are in a position to articulate what teachers and other professional educators need to know and why. That requires us to mediate between the community of researchers and scholars and the community of practicing professionals.

Teacher educators must be intimately involved in the professional organizations of teachers, in an effort to help improve the conditions of professional practice and to further the development of a professional agenda for the future. That requires collaboration with the legislative and executive branches of state government.

Teacher educators must act in these areas clearly, rationally, and energetically, if we are to build credibility with the public and with policy makers. Then, when we ask for additional assistance or seek to counter movements that are professionally unsound, we can draw on our reserves of credibility.

For years, teacher education bowed to the shibboleth that politics and education did not mix. But that was never really true. Today, however, we must recognize that, at the state level, political considerations shape policy development, and we must act accordingly.

Our commitment must be unflagging. We must scrutinize the policy initiatives proposed at the state level, and we must analyze the rationales that underpin them. We must build on the natural connections among the several elements of professional education. Most important, however, we must strive to reform what currently lies within our jurisdiction. Nothing will aid the politics of policy development in teacher education as much as good works within our own domain.

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1. Such a box score does not exist yet, but the Governmental Relations Task Force of the American Association of Colleges for Teacher Education is currently constructing one.

2. There is not space here for a detailed analysis of the New Jersey proposal. Suffice it to say that it includes only a 20- to 30-day immersion in full-time teaching under the direction of a practicing teacher, a single continuing seminar, informal weekly observations for 10 weeks, and monthly observations thereafter. ☐

THE MAKING OF A TEACHER

A Report on Teacher
Education and Certification

C. Emily Feistritzer

NATIONAL CENTER FOR
EDUCATION INFORMATION

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SUMMARY AND CONCLUSIONS

Nothing in American education is in greater need of reform than the way we educate and certify classroom teachers. Higher salaries, status and prestige for teachers will not be forthcoming until we are much more selective about who we let teach. Teaching will never be a true profession until it adopts "rites of passage" selection procedures at the entry level, as well as standards of excellence and competence on the job.

The findings of two surveys conducted by the National Center for Education Information in the spring and summer of 1984 reinforce these convictions and provide data that show where reform measures need to be taken. The National Center for Education Information conducted a mail survey, with follow-up telephoning as necessary, to every institution of higher learning that has a school, college or department of education (1,287) to collect information about their teacher education programs. Another survey, sent to the 50 states and the District of Columbia, collected data about how teachers are certified and what states are doing, if anything, to improve teaching.

The analysis of the condition of teacher education and certification, based on data from these two surveys, leads to the following conclusions:

- How teachers are currently educated in the U.S. is a wildly divergent process. How would-be teachers get into a college teacher preparation program varies from institution to institution. Some are allowed in as college freshmen, others in graduate school. Some institutions require minimum scores on the Scholastic Aptitude Test (SAT) or American College Test (ACT), but most do not even look at them. Few bother even to look at an applicants' rank or grade point average in high school. Those that use college grade point average generally admit students with a C average.

- An astonishing 82 percent of the institutions having teacher education programs in this nation ignore SAT and ACT scores in considering applicants for teacher training. Those that use such scores in granting admissions are mostly the larger, publicly-supported colleges and universities with a total student body of more than ten thousand. These institutions, representing 17 percent of the 1,287 now training teachers, have been producing half of all the teacher graduates over the past decade. This trend is shifting, however. There has been a proliferation of smaller institutions offering teacher education programs (113 more now than there were a decade ago). More prospective teachers are entering these smaller colleges, which rarely reject any applicant. For the most part, they do not have rigorous entry or exit requirements. Fewer than 20 percent of them are accredited by the National Council for Accreditation of Teacher Education.

- Strangely, in a field supposedly dedicated to the spread of knowledge, little information is collected and maintained on teacher education students. Only one in four institutions surveyed had data on SAT or ACT scores of those admitted to teacher education programs. Similarly, few of the respondents had such high school statistics for enrollees as class rank, grade point averages, or courses taken. Little or no interest was shown in foreign language skills.

- Fewer than half of the institutions surveyed -- 47 percent -- require passage of any kind of test upon completion of their teacher education programs. Only five percent demand that their graduates pass a test in the content-area they will teach. More education courses -- a highly controversial topic -- are required to complete a teacher education program today than ten years ago for prospective elementary, secondary and special education teachers.

- It is no surprise that the number of new teacher graduates dropped by half in the last decade. The most obvious explanation is that this represents supply and demand in action. Elementary and secondary school enrollments are down 14 percent since 1973, and teachers left classrooms, through retirement or other reasons, at the rate of only six percent per year. But trends spell trouble for the next decade. Student enrollments are on the upswing, as are teacher retirements, and demands for reform are expected to remove teachers deemed incompetent. If teacher education enrollments continue to fall, as has been widely projected, by 1992 the supply of new teachers could likely be half of demand.

- The process of certifying teachers in the U.S. is chaotic, varying enormously from state to state and even within states. Each state controls who can be certified and what they can be certified to teach and for how long and on what type of certificate. The numbers of different types of certificates and what is required to get one within a state, much less nationwide, are staggering. Florida, for instance, is set up to certify 410 academic and vocational areas. Any graduate of a state approved teacher education program can automatically get certified to teach in that state but not necessarily in any other state.

- Yet, many teachers are working with substandard credentials or no certification at all, and the states generally are unable to say how many. All the states but Vermont and Virginia issue substandard, limited or emergency certificates when applicants fail to meet full-credentialing criteria. Half of the states let people teach on substandard credentials who have less than a bachelor's degree, and all but four renew such certificates.

- Perversely, at the same time, there are many, many college trained teachers who never make it to the classroom, either by choice or circumstance. Fourteen states reported only half the fully certified teachers ever enter the classroom and 20 said they had no idea how many people certified to teach actually were teaching.

Spurred by the nation's new-found concentration on education, almost every state is attacking such basic issues as merit pay plans for teachers, new salary structures, and even performance evaluations aimed at weeding out teachers considered incompetent and rewarding top performers.

Still, it is clear that teaching has a way to go before it can truly be called a profession. Unlike other professions, teaching has no national standards, such as a proficiency examination, to qualify aspirants for licenses to practice. And all are far more selective about who gets into the process in the first place.

Until the deficiencies turned up by the NCEI survey are rectified, along with the launching of other clearly indicated reforms, the situation will defy improvement and even deteriorate. How our teachers are made will determine our future.

Research

FEASIBILITY OF REQUIRING AND DELIVERING CERTIFICATION FOR ABE TEACHERS IN PENNSYLVANIA

EXECUTIVE SUMMARY

prepared by

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Reprinted with permission of Dr. Judith L. Cope, (Formerly of Indiana University of Pennsylvania), Assistant Professor, College of Education, Kent State University, Kent, Ohio. Funding for this project was provided by the Pennsylvania Dept. of Education through a 310 grant of the Adult Education Act by the U.S. Dept. of Education.

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April 26, 1984

BEST COPY AVAILABLE

Preface

The contents of this paper are derived from a Special Section 310 study entitled the Feasibility of Requiring and Delivering Certification for ABE Teachers in Pennsylvania. The 1983 study was funded by the Pennsylvania Department of Education. It was conducted under the direction of Dr. Judith L. Cope in conjunction with Richard L. Learn (Graduate Student), Meredyth Leahy (consultant), and James P. Reid (consultant) via the Adult Education Center in the School of Continuing Education at Indiana University of Pennsylvania (IUP).

It has become increasingly apparent that there is general dissatisfaction with the present teacher certification practice in the field of education. This dissatisfaction has been in existence since teacher certification was established in 1825. According to Mackey, who wrote an historical study of teacher certification practice in the field of education, written examinations were the predecessor of certification. The first non-standard written examination was administered for the purpose of establishing the literacy of teacher applicants. Ironically, now adult literacy teachers are considering certification. As curricula has become more complex and new subjects have been introduced, discontentment with certification has become more widespread.

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Feasibility of Requiring and Delivering Certification for ABE Teachers in Pennsylvania

Background

States have usually assumed that a college program that certifies teachers includes general and professional education, a certain number of courses in a specific discipline, and practice teaching to produce a competent classroom teacher. However, the literature indicates that there is "no empirical research" to support this view. (The Chronicle of Higher Education, March 3, 1984, p. 3.) Other college representatives, governmental officials, and critics of teacher education have also voiced their concern.

On April 26, 1983, the National Commission on Excellence reported that teacher preparation should be improved and teaching should be a more rewarding and respected profession. Also in 1983, Dr. Ernst L. Boyer, former Secretary of Education and President of the Carnegie Foundation for Advancement of Teaching reported that the facts from its study make it clear that the teaching profession is in a crisis, credentialing is a mess, and teachers do not receive adequate recognition and reward. Medley summed up the notion of the problem with teacher preparation by saying that "Teacher education faces a crisis of confidence today. Unless teacher educators can ... begin immediately to transform teacher education programs into genuine professional programs, teacher education will cease to exist."

In 1982, two studies reported essentially the same criticisms. Donald M. Medley reported, in a study published jointly by the Association of Teachers in Virginia and the University of Virginia, that teacher preparation lacks a knowledge base, lacks measures of effectiveness, and is based on too little research. Medley indicated that as a result, written teacher examinations are unable to distinguish among the competent professionally trained teacher, the incompetent professionally trained teacher, and the untrained teacher. Also in 1982, the National Education Association (NEA) suggested that teacher preparation programs should be based on research and scholarly judgment; should be correlated to classroom practice; and practitioners should be involved in the process of identifying teacher preparation curriculum.

Two critics of teacher education have identified the following concerns: In 1974, Mackey pointed out that--

1. Preparation programs are based entirely on course work.
2. A teaching certificate is interpreted as competence.
3. The certification process does not provide for diversity.
4. The certification process is without a contribution from liberal arts faculty, inservice teachers, lay groups, and/or students.
5. There is too little a relationship between teacher preparation and inservice education.
6. The certification process does not foster professional growth and ignores inservice education.

Theodore Andrews, in a 1982 study prepared for the Board of Directors at the Northeast Regional Exchange, Inc. in Massachusetts, listed several other factors which contributed to the weakness of teacher preparation. These factors are--

1. The professional education faculty control only their curricula offerings and even that control is limited.

2. The teacher education curriculum is only one-eighth to one-half the total college curriculum; therefore, the liberal arts faculty also bear some responsibility.
3. Quality control is almost impossible to maintain; many college teachers fear infringement regarding academic freedom.

Feasibility of Requiring and Delivering Certification for ABE Teachers in Pennsylvania

In this study there was no conclusive evidence as to whether or not certification would benefit the field of adult basic education. Over 100 journals, articles, and research reports were reviewed. Careful examination of the literature revealed that there are many more opinions about ABE certification than research. Overall, the literature that supported certification emphasized the professional benefits, while arguments against certification generally were criticism of the effectiveness of the traditional credit-based certification system.

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or
see ERIC Document #239-071 for the 1982-83 study in its entirity: "Feasibility Of Requiring And Delivering Certification For ABE Teachers In Pennsylvania," by Cope, Judith L., Richard L. Learn, Meredyth S. Leahy, and James P. Reid.

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A COMPARISON OF TEACHER CERTIFICATION TEST SCORES AND PERFORMANCE EVALUATIONS FOR GRADUATES IN TEACHER EDUCATION AND IN ARTS AND SCIENCES IN THREE SOUTHERN STATES

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INTRODUCTION AND PURPOSE

There is a growing awareness and determination across the nation that the curriculum of the public schools must be strengthened, and that the caliber of teachers must be improved. Insuring that prospective teachers master general education components and maintaining the quality of content to be taught are increasingly important objectives. Mandates in numerous states now require that beginning teachers demonstrate minimum competencies on written tests that focus on basic skills and/or content to be taught.

The emphasis on employing teachers who know their subject matter has refocused attention on the employment of liberal arts graduates with preparation in a major subject field, even when a pedagogy sequence has not been completed. This policy is a reaction to the shortage of qualified teachers in certain fields, such as science and mathematics, as well as the recognition that persons with such preparation may have much to offer in teaching positions.

The SREB Task Force on Higher Education and the Schools, in its report The Need for Quality, (SREB, 1981) recommended that states modify their certification requirements to allow provisional certification of all beginning secondary teachers, including arts and sciences graduates, "with safeguards to insure the quality of instruction." The 1980 report of the Commission on the Humanities (Commission, 1980) calls for state departments of education to base certification requirements on solid liberal education of applicants. The Commission expresses concern that the minimum competencies now required in teacher testing may in fact become norms. The Commission also questions the prevailing system that for the most part excludes those who are academically prepared in various humanities disciplines but lack a required number of education courses.

As states consider the possibility of opening certification to arts and sciences majors, several questions arise. Will such majors be able to handle the classroom? Are these graduates sufficiently aware of differences in student abilities and cultural origins? Does knowledge of subject matter imply being able to teach that information at the level of high school students?

There is a need for data on the actual performance of arts and sciences graduates in the classroom, and on how they score on teacher certification tests of subject matter knowledge and pedagogy. The increasing pressure on state certification officers for revision of certification rules calls for data and research on this subject.

Several policy questions are related. If it is found that the classroom performance of beginning teachers who have not had a pedagogy sequence is similar to those who have, then the effectiveness of pedagogy sequences is open to question. If, on the other hand, the performance of arts and sciences graduates does not measure up to the performance of teacher education graduates, then the policy of certifying them should be questioned. Data on performance after the first or second year may indicate whether on-the-job experience does or does not make a difference in the assessed performance of the teacher. Results will need to be interpreted in the context of methods used to assess performance.

An examination of the test scores of arts and sciences graduates and teacher education graduates should indicate whether or not a difference in subject matter, general education, and professional knowledge does exist among those entering a teaching career. Test results may reflect preparation programs or self-selection by students into particular college programs. Research has not substantiated any relationship between the level of ability to score on a test and performance in the classroom. This may indicate the complexity of the classroom. Current teacher certification tests have cutoff scores set at minimum levels, hence their present purpose is to screen out those who cannot pass a minimum standard, and they do not necessarily predict who might or might not perform well in the classroom. In either case, policy questions are being asked about the attractiveness of teacher education programs and of the teaching profession to talented individuals, and data for making decisions will be helpful.

Data are now available from several states which permit comparisons of groups of arts and sciences graduates with teacher education graduates in terms of their knowledge base, as measured by a standardized test, and by their performance in the classroom, as measured by systematic evaluation instruments.

Two research questions are posed for each set of data. First, what differences exist in scores on certification tests which measure knowledge of subject matter, general education, professional education, or a combination thereof, for employed teachers who have graduated with arts and sciences degrees and those who have graduated from arts and sciences programs? A second question is: What differences exist in on-the-job performance of teachers, as measured by performance assessment instruments, for employed teachers who have graduated from arts and sciences programs compared with those who have graduated from teacher education programs?

Several areas of research are related to the questions posed. What is the percent status of certifying arts and sciences graduates? What is the relationship between a liberal education for a teacher and pedagogical knowledge? How do arts and sciences majors and teacher education graduates compare on tests of academic knowledge as well as on-the-job performance? In addition, information is sought about the instruments used to evaluate classroom performance as well as tests used for certification purposes. What is the relationship between how well a teacher scores on a test or is rated in the classroom and student achievement and attitudes in school?

Certification of Arts and Sciences Graduates

Suggestions of recommendations have been advanced in several states to provisionally certify arts and sciences graduates on the same basis as teacher education graduates. In the SREB region, only two states have moved to permit certification of arts and sciences graduates for secondary school positions. In Virginia, arts and sciences graduates may be provisionally certified and then must complete nine hours of approved courses or an alternate program approved by the state superintendent of education. In Florida, legislation has authorized the employment of persons with subject matter preparation but no professional education courses, to be implemented by districts under Board of Education guidelines. Nationally, California and New Hampshire have provisions for certifying arts and science graduates, and several other states are discussing proposals. Other states may give provisional certification to arts and sciences graduates, but in some of the states that have state salary schedules such teachers do not earn the same salary as those who have graduated from an approved program or have completed the necessary education hours. Teachers in these states have to earn the necessary education hours to attain regular certification.

Teacher Education versus Liberal Arts Education for Teachers

The question of whether or not the education of teachers should include courses on pedagogy is not a new dimension in examining the quality of teachers. The influence different types of training programs have on the effectiveness of a teacher were summarized in the 1969 edition of the Encyclopedia of Educational Research, which discussed several studies that focused on the same question during the early Sixties. Results were mixed but the authors concluded that the "results are not very encouraging"; several studies indicated that having gone through teacher training programs did make a difference and others reported that training to be a teacher made no difference except that teachers who were trained had greater objectivity.

Present arguments appear to center around the inability of schools of education to attract large numbers of bright students and on whether or not students studying to be teachers should concentrate their work in academic areas as opposed to courses in pedagogy. According to a recent summary of the question in Educational Testing Services' Teacher Competence, (1982) the National Accrediting Association for Colleges of Education (NCATE) notes that there has been an erosion in the amount of time devoted to pedagogy coursework, with an increase in arts and sciences courses. The intellectual content of the education programs has been attacked by J. Myron Atkin, dean of the College of Education of Stanford University. Others argue that teachers must learn by doing and that teacher education cannot be fully taught in the college classroom.

Performance Evaluation

Studies examining the on-the-job performance of teachers have produced mixed results, but generally have found that the teacher who has regular certification or has completed a teacher education program performed better in the classroom according to ratings from superiors.

When effectiveness of teachers was measured by a rating scale administered by school principals, provisionally certified elementary teachers did less well than regularly certified teachers in planning and preparation, subject area knowledge, student evaluation, and pupil-teacher relations. No significant differences were found in the following areas: instruction (ability to motivate students, use instructional materials), parent-teacher relations, and human relations with colleagues in the school and community (LuPone, 1961).

Beery's (1962) research in elementary and secondary schools in Florida found that first-year teachers who had completed sequences in education courses were rated significantly higher than those who had not. The ratings were made by education personnel as well as laypersons from outside the school. When principals' ratings only were used to compare teachers in the same school, the mean ratings favored the fully certified teachers, but not as statistically significant level.

Hall (1964) completed a study in Florida of first-year elementary teachers and found that student achievement gains were significantly related to hours of education courses that had been completed by teachers. Student achievement scores favored the fully certified teachers, especially in word meaning, paragraph meaning, and language.

In a study conducted in Georgia in 1967, teachers who had regular certification were compared to those who held temporary certification because they had not completed the necessary number of education hours. Using an instrument similar to the one used by Beery, the regular teachers were found more systematic and responsible, more skilled in use of teaching media, and generally more competent (Bledsoe et al., 1967).

A 1971 study by Popham compared experienced teachers with persons from outside the schools, such as an electrician, in their ability to teach high school students a unit lasting from 4 to 9 hours. The achievement of the students was measured through post-testing after the materials had been presented. The students of the experienced teachers scored higher, but differences were not significant. A study by Bausell and Moody (1972) reported that students taught by inexperienced student teachers learned as much as those taught by experienced teachers.

Copley, in his 1975 study of ratings given to teachers by principals, found that in areas such as communication skills and consideration of pupils, teacher education graduates were rated higher than those who had no student teaching or those who possessed an arts and sciences degree, but no difference was found in planning and organization, knowledge of subject matter, or personal characteristics.

Test Results for Teacher Education and Other Majors

Students who intend to major in education have historically ranked near the bottom third for all majors on achievement and aptitude testing, and the situation is getting worse. Declines in English and mathematics scores between 1970 and 1976 were shown to be greater for prospective education majors than for all other majors (Weaver, 1979). Scholastic Aptitude Test (SAT) scores for 1982 indicate that the average verbal SAT score ranked 32 points below and mathematics scores averaged 48 points below the national averages. Education ranked 26th out of 29 majors; only home economics, ethnic studies, and vocational studies ranked lower.

Recent information from the National Center for Education Statistics (NCES, 1982) indicates that for high school graduates of the class of 1980, those intending to major in education had lower achievement scores and lower self-reported grade averages, had taken fewer mathematics and science courses, and a smaller proportion of them had been in academic programs in high school, compared to students declaring all other majors.

In a study of 1979 graduates of public and private colleges in Virginia, it was found that mean SAT scores of graduates certified to teach were lower than those not certified to teach. However, it was noted that the difference in scores by institution was greater than whether or not graduates had the qualifications to be certified. The researchers do indicate that conclusions drawn from the evidence and general findings should be viewed with the knowledge of the aggregation of data and nature of the SAT (State Council of Higher Education for Virginia, 1981).

Results of the Graduate Record Examination (GRE) scores show similar trends. Verbal scores of intended education majors dropped 22 points from 1974 to 1981; mathematics scores dropped 7 points. For all candidates the drop on verbal was 20 points, but mathematics scores increased by 13 points from 1974 to 1981. Intended education majors also ranked near the bottom in comparison with all other intended majors (Hardy, 1982).

In addition, it is pointed out that schools have been just as willing to hire low scoring teachers as high scoring teacher (Weaver, 1979; Vance and Schlechty, 1982).

Teacher Testing and Its Relation to Performance Evaluation

Several studies have examined the relationship between the National Teacher Examinations (NTE) and performance in the classroom. For the most part, studies have been conducted using observation instruments that principals or supervisors employed to assess the performance of student teachers or teachers. In general, low correlations have been observed (Quirk, Witten, and Weinberg, 1973). A study of the relationship between the Common subtest scores of the NTE and teaching styles found correlations with a median of .25 (Medley and Hill, 1970). Another study which examined Weighted Common scores, selected Area Examinations, and supervising teachers' ratings reported significant correlations, both positive and negative. The authors questioned the rating instruments that were used (Andrews, Blackmon, Davidson and Mackey, 1982). A study of performance of student teachers' assessments by university supervisors in relation to the NTE elementary education test reported a significant correlation of .43 (Piper and Sullivan, 1981). Correlations of the NTE area tests in mental retardation, early childhood, and physical education as well as the professional education subtest of the Common test and the Common score were correlated with on-the-job performance as measured by the Georgia Teacher Assessment Instrument (TPAI). Correlations ranged from -.12 to .52 (SREB, 1982). In general, the findings of the studies support the contention of Educational Testing Service that knowledge is only one part of the complexity of classroom teaching (ETS, 1978).

A recent study examined the relationship of the scores on the Georgia Teacher Certifications Test with the Results of the Teacher Performance Assessment Instrument data for beginning teachers and found that for the first assessments in the fall, correlations tended to be positive, but very small, ranging from .04 to .35 for academic subjects. The subjects of art, home economics, and music all showed very small negative correlations ranging from -.03 to -.10 (SREB, 1982).

Teacher Testing, Performance Evaluation, and Student Achievement

There has been little research on the relationship of performance assessment or testing of teachers with achievement and attitudes of students. Mixed results were obtained in a study which examined student achievement and attitudes as they related to low inference teaching measures (low inference instruments measure the presence or absence of teacher behaviors in a classroom) (Coker, Medley, Soar, 1980). A study examining the relationship of the Georgia Teacher Performance Assessment Instrument with student achievement found a significant relationship between the TPAI ratings and teacher-made tests. When student achievement was measured by standardized tests, the results were mixed (Capie, 1981).

Some studies report relationships between the National Teacher Examinations and student achievement. However, many of the studies are beset with methodological problems. An early study by Lins (1946) showed moderate correlations between student achievement and the NTE Common Examinations, however, small samples were used. A study of the relationship between the National Teacher Examinations Common test and student achievement in mathematics and vocabulary found significant relationships (Sheehan and Marcus, 1978). However, they cite another study showing an inverse relationship between teachers' NTE scores and pupil achievement.

Teacher Performance Instruments

Questions arise as to the validity and reliability of teacher observation instruments used by states and districts to evaluate teachers on the job.

Most of the instrumentation appears to have sufficient reliability and validity to support use. However, it might be noted that most reliability data concerns interrater agreement, which provides information on the use of the instrument, the clarity of the language, and training of the observers. According to Medley and Mitzell (1963) this coefficient of observer agreement tells us something about the objectivity of the observations, but nothing about how closely the obtained score approximates a true score (the day-to-day behavior of the teachers as opposed to what is observed on one occasion). Other reliability of the instrument can be low, even if two observers agree exactly, because of errors that arise from changes in behavior of the teacher from one occasion to another. Dickson and Wiersma (1980) note that teacher observation depends highly on the instrument in use.

Instruments currently in use are generally developed from a "consensus" model, from a research perspective, or from a combination of both. In a consensus model, competencies that practitioners "believe" to be associated with effective practice are assembled. However, what is thought to be characteristically effective practice may not be the case when the behaviors are correlated to student achievements and attitudes, as reported in the works of several authors (Rosenshine, 1976; Medley, 1977; Coker, Medley & Soar, 1980). A second method of developing evaluation systems is to use the current research base, which links particular teacher behaviors with student outcomes. Most of the research in this area has been conducted in elementary schools with low socioeconomic students, therefore, teacher behaviors linked with student achievement may not be the same as behaviors linked to achievement of secondary or high achieving students. A recent study has questioned the generic character of the observation instruments in use (Southern Regional Education Board, 1982).

Research on assessment instrumentation is sparse, especially that which examines specific teacher competencies associated with student achievement and attitudes across a variety of ages and subject areas. According to a recent critique of teacher evaluation, methods used to evaluate teachers are inadequate. Soar, Medley and Coker (1983) criticize rating scales to evaluate teachers because of their inaccuracy in measuring the performance of teachers, their lack of validity, and because they are susceptible to the "halo effect." They report a number of studies to support their contention that ratings of teachers' performance by trained observers have "no validity as predictors of teacher effectiveness" (p. 244) when the criteria is student learning.

Questions also arise concerning who should be doing the observations in the classroom -- principals, peers from within the school, or peers from outside the school. Studies have shown that there are not substantive overall differences in ratings related to the type of observer (Hawkins & Stoops, 1966; Hamm, Liu, Brinlee, 1983). However, it has been noted that differences occurred in ratings that teachers, district administrators, and peer teachers gave on classroom management and communication on an instrument used statewide. District administrators scored teachers significantly lower than teachers or principals on classroom management, but on communication, principals scores teachers higher than district administrators and per teachers (Hamm, et al., 1983).

FOUR RELATED STUDIES

A Study of Scores on the Georgia Teacher Certification Tests for Teachers with Regular Certification and Teachers with Provisional Certification

This study examines the differences between the scores on the Georgia Teacher Certification Tests (TCT). The study assesses teaching field knowledge for two groups of teachers: (1) those who have completed a regular teacher education program leading to a bachelor's or master's degree, and (2) those who have completed an arts and sciences program leading to a bachelor's or master's degree and do not possess enough hours in professional education courses to be regularly certified.

The population (n=703) for the study was composed of teachers who were employed in public school systems in the state of Georgia for the 1982-83 school year, had taken the Georgia Teacher Certification Test, graduated from approved teacher education programs and possessed professional certificates, or graduated with arts and sciences degrees and possessed provisional certificates as their only certification. All teachers had three or fewer years of experience teaching in Georgia.

To determine if differences in knowledge level of subject matter (as measured by the Georgia Teacher Certification Test) exist, a statistical summary was made for four groups: graduates of approved teacher education programs at the (1) bachelor's and (2) master's levels, and arts and sciences graduates at the (3) bachelor's and (4) master's levels. The data were also examined to determine differences by program as well as level, with interactions included.

The results for all teachers in this selected population, as well as breakdowns by subject matter, indicate that subject matter and, to a slight degree, professional knowledge, as measured by the Georgia TCT, are more dependent on level than on program. A much higher percentage of the teachers who have completed a bachelor's degree fall in the bottom of the score ranges (70 percent) than do the teachers with a master's degree (45 percent). Similarly, almost twice as many master's level teachers (20 percent) fall into the upper ranges when compared to the bachelor's level teachers (10 percent).

By program, the distributions were more similar; 66 percent of the arts and sciences graduates and 68 percent of the teacher education graduates were in the lower two-fifths. Approximately 12 percent of the arts and sciences graduates fell into the upper two-fifths of the range; 9 percent of the teacher education graduates were in those categories.

At the bachelor's level, arts and sciences majors score slightly above the teacher education graduates, but do not score as well at the master's level. If scores within programs are compared by level, the differences between the bachelor's and the master's level are much greater for the teacher education group. This may be an indication of selection processes that are taking place in the teaching profession, or the testing process itself. Since the TCT has been designed to test minimum competencies and its content is no more complex than the curriculum of the Georgia public schools, it probably does not test higher complexities in the subject area. However, teacher education graduates possessing a master's degree outscore all other groups for this population.

These conclusions are derived from analyses of data for teachers who have been hired for teaching positions, and who have passed the TCT with at least a scaled score of 70. It therefore does not reflect upon a total number of persons prepared in teacher education programs or arts and sciences programs. The data does support the generalization of the two years of test data to a larger group which has been tested over a period of time and has similar characteristics to the selected population in terms of programs and experiences.

A Study of Scores on the National Teacher Examinations for Teachers with Regular and Temporary Certification in Louisiana

This study examines the differences between the scores on the National Teacher Examinations (NTE)--both the Common Examinations, and selected Area Examinations--for two groups of teachers: (1) those who have completed a regular teaching education program leading to a bachelor's or master's degree and have regular certification, and (2) those who have completed an arts and sciences program leading to a bachelor's or master's, without the necessary hours to be a fully certified teacher in Louisiana.

The population was composed of all teachers who received certificates and had met the minimum NTE scores necessary to be certified from July 1982 to July 1983. In Louisiana, teachers who have not graduated from an approved teacher education program or do not hold the necessary hours for certification may be given temporary one-year certificates upon request of the employing district. The total population of teachers who were issued temporary certificates during 1982-83, and held no other regular certification in the state, was used in the study (N=89). A random sample of 105 teachers with regular certification was drawn from the initial population.

Statistical summaries of data were obtained on the NTE Weighted Common Examinations (WCET) scores for all teachers in the two groups, and for teachers with no education hours. Analyses of the WCET, Area Examination scores, and composite scores were completed for the teachers who had taken the Education in the Elementary School Area Examination. Because of small numbers, no other subject area groups were analyzed.

The teachers in this population who had received little or no training in professional education appeared to be able to score better on the WCET (mean WCET=619) than those who had completed a regular sequence of education courses, (mean WCET=602), even though 40 percent of the WCET is weighted for professional education content. Temporarily certified teachers with no education hours (mean WCET=611) outscores the teacher education group. General education or specialized content courses may make up for the lack of education courses, or possibly, there were undetermined differences between the groups taking the test. It is interesting, however, to note that for the more specialized information that is measured on the elementary education area examination, the teachers who had not completed a teacher education program (an average of 13 hours of education courses) (mean=628) did not score as high as those who had (mean=615).

A Comparison of the Performance of Classroom Teachers in a Metropolitan School District Who Have Graduated from Arts and Sciences or Teacher Education Programs

This is an examination of the performance of classroom teachers, as measured by a locally designed teacher evaluation system, for two groups: (1) those who have regular certification in the state of Georgia (having completed a teacher education program or the necessary hours for certification), and (2) those who hold provisional certification because of a lack of the necessary hours in professional education courses.

All teachers who were graduates of arts and sciences programs (provisional certification) in the district during the 1982-83 school year (no regular certificates in any area--N=21) were included in the study. For comparison, a sample from regularly certified teachers (n=21) was drawn. It was matched as closely as possible by subject area and by years of experience. Experience could not be matched year for year because regularly certified teachers are not evaluated their first year with the district instrument. The evaluation instrument, Teacher Performance Observation Record, used in the district was developed from a statewide evaluation instrument for assessing beginning teachers in Georgia.

The teachers with regular certificates had higher performance ratings than the provisionally certified ones; however, the former were considerably more experienced than the later group. The scores of provisional teachers showed a broader distribution than those for the regularly certified teachers. Most of the regularly certified teachers received perfect or nearly perfect ratings on most competencies. A very small percentage of the teachers, especially the highly experienced ones, are receiving less than satisfactory ratings.

Whether or not the results indicate an essential difference in the groups or a difference due to experience levels cannot be concluded from the data. It does appear that the instrument may be used by principals to assess strengths and weaknesses to a greater degree for those teachers who are either less qualified according to certificates held or less experienced. The principals may tend to rate an experienced teacher high on all categories because of other factors. (Note that due to the extremely small numbers, all conclusions should be made with caution).

A Comparison of Performance and Test Scores for a Selected Population of Teachers with Provisional and Regular Certification in North Carolina

This study examines scores on teacher certification tests and on-the-job evaluations to determine if differences exist for two groups of teachers: (1) those with provisional certification and (2) those with regular certification. Teachers with provisional certification have completed arts and sciences programs at the baccalaureate level or have 90 hours leading to a degree. These teachers do not have the necessary hours of professional education for a regular certificate.

All teachers who were employed with provisional certification during the school years of 1978-79 to 1982-83 were included in the selected population of provisionally certified teachers or the arts and sciences group (n=113); of this population, 31 of the teachers possessed less than a bachelor's degree. A sample of evaluations of 179 teachers who held regular certification at the bachelor's level and had been certified in North Carolina from 1978-79 through the 1982-83 school year was used.

Two general types of evaluations were used in this study to examine the performance of the two groups of teachers: the North Carolina Teacher Performance Appraisal Instrument and district-designed evaluation instruments used in local school systems. The Teacher Performance Appraisal Instrument provides for evaluations to be made in three general areas: broad program functions, particular technical functions; and indirect facilitating functions. The instrument contains 33 basic elements of teacher which are rated by the evaluator. Evaluators are school principals, trained by the State Department of Public Instruction.

Evidence concerning on-the-job performance of teachers as evaluated by school principals shows that there was very little difference between the teachers who had completed a teacher education program or the necessary hours for regular certification, and those with provisional certification. Additional training and numbers of professional education courses that had been completed by the provisionally certified teachers are not known.

In terms of performance, as measured for beginning teachers with one year of experience compared to those with more experience, there were no differences. The instruments and methods of evaluating teachers appeared to place the majority of teachers in a very favorable light. The use of the statewide instrument for this group of teachers indicates that very few (less than 3 percent) of the teachers evaluated fell into a less than satisfactory category, based on a total score.

These results call into question whether or not these instruments are discriminating enough to reveal real differences that might occur between teachers, regardless of how they were prepared. Similarly, a total score may not be revealing weaknesses in particular areas, although for the statewide instrument the breakdown by functions such as planning, classroom activities, and activities outside the classroom revealed no differences for the two groups. The purpose of the instrument is to identify weakness areas and to serve for decision-making within the districts, not for comparisons of groups of teachers.

On the other hand, if the instruments are valid for these purposes--and they are being used as the bases for employment decisions within districts--the ability of those persons who have not finished a traditional teacher education program or have not accumulated enough hours to become regularly certified to attain similar ratings on these types of instruments indicate that they appear to be functioning as well in the classroom as those who have completed the necessary requirements. At least weaknesses and strengths are identified to an equivalent degree through the use of the instruments.

A Comparison of the scores of the National Teacher Examinations' Weighted Common Examinations (WCET), which to a large extent deal with professional education, reveals that the arts and sciences graduates (mean WCET=582) outscore the teacher education group (mean WCET=580) to a slight degree; the scores should be interpreted as roughly equivalent. A breakdown of scores within the SCET needs to be examined to identify areas of weakness or strength for each group. Conclusions related to area test scores were not available because of small numbers of teachers in each subject area.

All interpretations of the data, both for teacher evaluations and for teacher test scores should be interpreted with the population and samples in mind. Generalizations to any other groups should be made with caution.

DISCUSSION OF THE FOUR RELATED STUDIES

The regular certification of arts and sciences graduates who have not completed the necessary professional education courses has become state policy recently in several states; other states are discussing the issue. These four studies provide data on two research questions related to this policy:

1. What, if any differences in scores on teacher certification tests occur for two groups of teachers: those who have completed teacher education or certification programs and those who are temporarily certified (arts and science majors)?
2. What, if any, differences occur in on-the-job performance of such groups of teachers, as measured by evaluation instruments currently in use?

Teacher Certification Tests

The results of these studies reflect data for employed teachers from selected populations and do not necessarily indicate how all graduates might perform on teacher certification tests. All teachers in the studies had received scores at or above the minimums needed for certification in each state.

Research has not established a relationship between scores on teacher certification tests and student achievement or attitudes in the classroom. Neither has it established what minimum level of knowledge is needed by an effective (as defined in terms of student achievement) teacher in the classroom. However, states across the nation, especially in the South, have mandated that teachers must pass minimum competency tests in general education, professional education, subject matter knowledge, or combinations thereof, to insure that teachers being granted certification possess a minimum level of knowledge to be able to function in the classroom.

In these studies, graduates of arts and sciences programs who had provisional or temporary certification generally outscored teacher education graduates in tests of general education and professional education (NTE Weighted Common Examinations), despite the fact that 40 percent of the WCET score was weighted for professional education content. The arts and sciences graduates had completed varying amounts of professional education courses; however, the scores of the temporarily certified teachers in Louisiana who had not taken any professional education courses prior to taking the WCET attained higher scores than the teacher education graduates.

Test results on subject area examinations were compiled from the NTE Area Examinations and the data from the Georgia Teacher Certification Tests, which are heavily weighted toward subject matter content, although some professional education is included. The Georgia data revealed a greater difference by level of degree (bachelor's or master's) than by separation between teachers possessing regular or provisional certification. At the bachelor's level the arts and sciences graduates in general scored slightly higher as a group, but at the master's level the teacher education graduates outscored the arts and sciences persons. Whether this is a function of the selection processes employed or the fact that the test is designed to test minimum levels of subject matter cannot be ascertained from this study.

Because of the small numbers associated with the respective NTE scores, data could not be analyzed by level, and no generalizations other than those made for elementary teachers were possible. The teacher education graduates in elementary education outscored those who were provisionally or temporarily certified on the Area Examinations in Louisiana. It appears on the basis of these limited data that at the elementary level, in the specialized knowledge tested for in the NTE Area Examinations, the teacher education graduates are more knowledgeable than the arts and sciences graduates. Because of the small number of teachers being provisionally certified in Georgia for elementary education, no findings were possible. The differences for the elementary and secondary fields may indicate similarities in terms of content focus at the secondary level for both teacher education and for arts and sciences graduates. The fact that programs to prepare elementary teachers are generally weighted toward the teaching of children--tested for in the area test--could explain differences.

Evaluation of On-the-Job Performance of Teachers

The data from these studies indicate few differences in the on-the-job performance of teachers as measured by several types of currently used evaluation instruments in which the school principal is the rater of a teacher's on-the-job performance.

The data from the Georgia metropolitan district do indicate that teachers who are regularly certified receive a better rating than the provisionally certified arts and sciences graduates when rated on the district instrument. Because of problems in equating years of experience and because of small numbers in the study, it is not known to what extent the differences are a function of the course background of the teacher or of the experience level.

For the much larger North Carolina population, no differences were found between the provisionally certified teachers and those with regular certification, nor were differences found when the two groups were compared by experience level. The first-year teachers in both groups received similar ratings, which did not differ from the ratings of experienced teachers.

Data from both groups revealed that for experienced teachers, most evaluations are at the satisfactory or above satisfactory level. This may be, in part, because those teachers who were not able to perform were no longer on the job or that principals tend to give similar ratings to highly experienced teachers. However, the North Carolina data show that even among first-year teachers, very few received a mean score which would be considered less than satisfactory.

All the performance results should be examined with the knowledge that evaluation instruments have not been validated against student learning, and that the ratings are confined to the principals' perceptiosn of the ability of the teacher to perform a particular activity. The fact that few differences occurred in the

North Carolina data in terms of type of certification or level of experience calls into question whether or not the comparison of performance in terms of a total mean score really reveals differences in the performance of the teacher. On the other hand, the evaluations are designed for employment decisions and to identify weaknesses of the teachers. In this respect, the instruments do not seem to distinguish between the two groups.

Because of the nature of the instrumentation and the state of previous research, further studies are needed on other populations using the instruments examined in this study as well as other evaluation instruments. In particular, the instruments need to be validated against student achievement to determine whether or not the competencies being rated are those demonstrated by teachers who are effective in terms of student achievement. The ability of the school principal to effectively "rate" teacher competencies needs further research.

Certification of Arts and Sciences Majors

For the populations studied, the data support the contention that, as measured by certification tests, arts and sciences majors are as well--or possibly better--qualified than teacher education graduates in general education, general professional knowledge, and subject area knowledge at the secondary level. At the elementary level, more research needs to be conducted to determine if the preliminary indication of these studies that teachers prepared in teacher education programs have a greater knowledge of what is measured on the NTE Elementary Education Area Examination than the arts and sciences majors is similar for other populations.

The studies reveal mixed results in terms of performance in the classroom. The North Carolina data, using different types of evaluation instruments, revealed no real differences, while the results from the Georgia metropolitan district, based on small numbers of teachers, favored the teacher education graduates. The instrumentation and the validity of the instruments for measuring the effectiveness of teachers is certainly brought into question. The interpretation of the results of these studies must be made with that in mind.

As states begin or consider to begin certifying arts and sciences graduates, it will be important to gather data on teachers currently in the classroom as well as those who enter the classroom under these new circumstances. Regionwide pooling of data for research would be helpful. If certification is to function for quality control, then states need to monitor practices and consider whether old or new policies are in the best interest of students.

States also need to carry out further research to determine the ability of evaluation instruments to distinguish between the good and the poor teacher in the classroom. Can one generic instrument be used across all subject and experience levels? Studies on inclusion of data on student achievement and attitudes for validation of teacher performance instruments should be given high priority.

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"Certification Requirements and Their Relationship to Mathematics Teachers' Knowledge, Professional Skills and Students' Achievement"

An Article Prepared

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"Certification Requirements and Their Relationship to Mathematics Teachers' Knowledge, Professional Skills and Students' Achievement"

This research investigated the difference between certified and non-certified mathematics teachers at the middle school and high school levels as measured by student achievement, teacher knowledge of the subject, and teacher professional skills as observed in the classroom. Subjects were math teachers and their students in 15 rural counties in Eastern North Carolina encompassing 17 local school units. The study was confined to measuring parameters of effective teaching in mathematics in grades 6 through 12. Teachers who had either a subject area certification or endorsement for the math being taught (referred to as "in-field") were compared to teachers who did not have such certification or endorsement at the time (referred to as "out-of-field"). Specifically, the scope of this initial study was confined to addressing three questions:

1. Is there a difference in student achievement in math between students in grades 6 through 12 who are taught by certified teachers with appropriate endorsements and those students who are taught by certified teachers without appropriate endorsements?
2. Is there a difference in knowledge of mathematics between certified teachers with appropriate endorsements and certified teachers without appropriate endorsements?
3. Is there a difference in the professional skills of certified teachers with appropriate endorsements and certified teachers without appropriate endorsements?

For the purpose of this study, teachers were described as "out-of-field" if they were teaching one or more classes in a subject for which they did not possess a certificate or an endorsement. This study was funded by the Spencer Foundation and conducted by the School of Education at East Carolina University, with the support and cooperation of 17 local school systems in Education Region I, North Carolina.

RATIONALE

Teacher certification is the principal mechanism used by states to assure the public that teachers have received the minimal training necessary to teach in a subject area. Through this process of certification, the state indicates to the public that students will be taught by qualified individuals (Woolford, Presti, Gray, and Coble, 1982). This assurance is based upon the assumption that certification in a particular subject (in-field) guarantees that a person has some background training and knowledge in that area, and will therefore be a more effective teacher than one who does not possess subject-area certification (out-of-field) for the course being taught. In addition, due to the projected increase in demand for qualified teachers and scarcity in such areas as math and science, some states are considering proposals to certify teachers who have college degrees but not coursework in education. California has enacted such a measure (Inman, 1984). This has happened without a data base to suggest how effective non-certified teachers may be in the classroom.

According to a study conducted in 1981 by the North Carolina Center for Public Policy Research, out-of-field teaching is currently a widespread problem in North Carolina. The study also found that out-of-field teaching is most prevalent in grades 7 through 9 (Woolford, et al., 1982).

What is the relationship between certification and qualification? J. Arthur Taylor, Director of the Division of Teacher Certification of the North Carolina Department of Public Instruction, has admitted, "We recognize the fact that certification and qualification are not synonymous...Our basic position is that certification and qualification parallel each other," (Woolford, et al., 1982). There is no research; however, that substantiates this basic position.

In 1983, the National Council of Teachers of Mathematics reported that there has been a decline of 77% over the past 10 years in the number of math teachers prepared for the classroom. Responses to the created shortage have been to provide more money for math teachers' salaries (Houston, Oklahoma City, Richmond, Virginia) and less stringent requirements to enter the teaching profession (Florida, New Jersey, California). Once again, states have made certification decisions in the absence of empirical data to support those decisions. The research described here was designed to generate empirical data from which certification policies could be examined intelligently.

METHODS

Participants:

The participants in this study included 36 math teachers, their students and three raters. The teachers were identified by asking 17 school systems in Eastern North Carolina for a list of their in-field and out-of-field math teachers. Out of these 17 systems, nine were able to participate in the study. The other eight systems either had no teachers who qualified or chose not to participate.

The criteria for selecting teachers for the study included: (1) teaching at least one math class, (2) pairing of an in-field teacher with an out-of-field teacher in the same school, and (3) having both members of the pair teaching the same grade level, math course, and student ability level. A total of 36 teachers met the criteria and were willing to participate in the study. The distribution of the teachers by degree, teaching experience, and number of years of teaching math is shown in Table 1. Half of the teachers (in-field) were certified in math and the other 18 were teachers holding certification in some other area (out-of-field). There were no teachers in this study not in possession of a valid teaching certificate.

TABLE 1

DISTRIBUTION OF TEACHERS BY TEACHING EXPERIENCE, YEARS OF TEACHING MATH, DEGREES, AND GRADES TAUGHT

		Teachers	
		In-Field	Out-of-Field
Years of Teaching:	More than eleven	4	8
	8-11	5	2
	3-7	8	4
	0-2	1	4
Years of Teaching Math:	More than eleven	3	2
	8-11	3	2
	3-7	6	6
	0-2	6	8
Degree:	Bachelor (Arts or Science)	11	11
	Advanced (Masters or higher)	7	7
Grade Level Taught:	6	1	1
	7-9	16	16
	10-12	1	1

The students who were tested were identified according to levels in one of four ways: (1) upper, (2) average, (3) below average, and (4) heterogeneous. Four classes were in the upper levels, 18 were average, 10 were below average and 4 were heterogeneous. A total of 826 students participated in the study.

The third group of participants in the study were the raters. Three raters were chosen and trained to observe and rate teacher classroom performance. It was a concern of the participating teachers that they not know the people who were to observe them. Therefore, one of the criteria for selection of the raters was that he/she be new to the area or not from the region where he/she be rating. Additional criteria were that the individuals have extensive experience both as public school teachers and supervisors. The three raters selected met the established criteria and in addition, each of them had had two or more years experience using classroom assessment instruments.

Instruments:

In gathering data for the study, the following instruments were used: (1) Descriptive Tests of Mathematics Skills of the College Boards, (2) Stanford Achievement Test and Stanford Test of Academic Skills, and (3) The Carolina Teacher Performance Assessment System.

The Descriptive Tests of Mathematics Skills (DTMS) were used to test the mathematics knowledge of the teachers. The consist of two 30-minute, 35-item tests, one on Arithmetic Skills and one on Elementary Algebra Skills. The teachers had no prior opportunity to see the test used in the study.

The Stanford Achievement Test, intermediate and advanced levels was used for students in grades 6 through 9. Only the mathematics computation section was used in order to eliminate the interference of reading skills. The computation section which consist of 45 items, tested such skills as operations with whole numbers, fractions, decimals, estimations and proportions.

The Stanford Test of Academic Skills was administered to high school algebra students. It measured numerical concepts, computation skills, applications of concepts and skills, and basic principals of algebra, geometry, and measurement, comprising 48 items.

For rating teacher classroom effectiveness, raters used the Carolina Teacher Performance Assessment System (CTPAS).* The CTPAS is researched based (rather than consensus-based) and was developed by education researchers from the University of North Carolina. The instrument asseses five teaching functions: (1) management of instructional time, (2) management of student behavior, (3) instructional presentation, (4) instructional monitoring and (5) instructional feedback. Within each of the teaching functions there are specific observable classroom teaching practices.

The classroom observations lasted the entire length of the math period. The raters arrived at the classroom before the students entered and remained until the students left. The CTPAS was developed for use during the entire class period to reduce the possibility of disrupting the class and to enable the observers to obtain as comprehensive a view of the teachers' skills as possible. The CTPAS was chosen because it has been validated in North Carolina for use with North Carolina teachers and deals only with observable classroom behaviors.

Procedures:

Pretesting of the 36 participating teachers' students was conducted during a seven-day period in January, 1984. To help insure consistency of the testing situation, three project staff members administered all the tests. The post-test was administered during the second week in May, using the same procedures described for the pretesting.

The training for the raters in the use of the Carolina Teacher Performance Assessment System was conducted during four consecutive days in January. At the completion of the training, raters had achieved interrater agreement in excess of 90%.

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*Copies of this instrument may be obtained from the authors.

Two observations/ratings were conducted on all participating teachers. The first and second observations were conducted by different raters. The time span for these ratings was February to April.

RESULTS

The presentation of the data is three parts: (1) pre and post-tests of the students' achievement, (2) scores of the teachers on the arithmetic and algebra tests, and (3) ratings of the teachers on the classroom observations.

Data Analysis:

All data were coded and entered onto the Burroughs 6700 Mainframe Computer. Descriptive statistics were computed for all of the variables. Comparisons between in-field and out-of-field teachers on the demographic and teacher characteristics variables were analyzed with a chi-square test. An independent t-test was computed to analyze the significance of mean differences on teacher achievement scores and classroom ratings. An analysis of covariance with the student pretest as the covariant, was used to compare student achievement by teacher certification type on the math post-test. All analyses were performed using SPSS version 8.

Question One: Student Achievement in Mathematics

> Is there a difference in student achievement in math between students in grades 6 through 12 who are taught by certified teachers with appropriate endorsements and those students who are taught by certified teachers without appropriate endorsements?

Analysis of covariance, with the students' pretest as the covariant, was used to compare student achievement on the math post-test. Two separate ANCOVA were computed--one for each test administered to students in grades 6-9 and 10-12. The results are presented in Tables 2 and 3 for in-field and out-of-field teachers of general mathematics, grades 6 through 9. The achievement of students taught by in-field math teachers clearly exceeds that of students taught by out-of-field math teachers ($F=13.98$, $p < .001$).

TABLE 2

MEANS AND STANDARD DEVIATIONS OF PRE AND POST STANFORD ACHIEVEMENT TEST SCORES FOR STUDENTS TAUGHT BY IN-FIELD AND OUT-OF-FIELD ARITHMETIC TEACHERS

	In-Field			Out-of-Field		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Pre Score	286	23.93	8.69	283	22.00	7.87
Post Score	286	27.14	8.75	283	23.99	8.14

TABLE 3

ANCOVA ON STUDENT TEST SCORES IN GENERAL MATHEMATICS GRADES 6 THROUGH 9

Source	SS	df	MS	F
Group	338.38	1	338.38	13.98*
Error	13703.91	566	24.21	
Total	41923.51	567		

* $p < .001$

The results are presented in Tables 4 and 5 for in-field and out-of-field teachers of Algebra I at the high school level. Again, the achievement of students taught by in-field teachers is significantly greater than for students taught by out-of-field teachers ($F=7.96$, $p < .01$).

TABLE 4

MEANS AND STANDARD DEVIATIONS OF PRE AND POST STANFORD TEST OF ACADEMIC SKILLS FOR STUDENTS TAUGHT BY AN IN-FIELD AND OUT-OF-FIELD ALGEBRA TEACHER

	In-Field			Out-of-Field		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Pre Score	28	20.21	6.25	16	23.25	6.12
Post Score	28	25.54	6.75	16	24.37	6.72

TABLE 5

ANCOVA ON STUDENT TEST SCORES IN ALGEBRA I CLASSES

Source	SS	df	MS	F
Group	137.25	1	137.25	7.960*
Error	706.96	41	17.24	
Total	844.21	42		

* $p < .01$

Question Two: Teacher Knowledge of Mathematics

> Is there a difference in knowledge of mathematics between certified teachers with appropriate endorsements and certified teachers without appropriate endorsements?

Arithmetic and elementary algebra test scores were collected from 35 of the 36 participating teachers. One out-of-field teacher refused to be tested. The data from the tests are reported in Table 6. Analysis of these data, using a t-test, indicate that scores measuring knowledge of arithmetic between in-field and out-of-field teachers do not differ significantly at the .05 level of significance. An analysis of the data collected in knowledge of elementary algebra, however, does indicate significant differences in knowledge of in-field teachers over out-of-field ($p < .001$).

TABLE 6

MEANS, STANDARD DEVIATIONS AND t-TEST FOR IN-FIELD AND OUT-OF-FIELD TEACHERS' KNOWLEDGE OF ARITHMETIC AND ELEMENTARY ALGEBRA

	In-Field			Out-of-Field			t
	N	$\overline{X}$	SD	N	$\overline{X}$	SD	
Arithmetic	18	34.333	1.138	17	33.000	2.646	1.96
Elementary Algebra	18	31.056	5.514	17	20.647	8.760	4.23*

* $p < .001$

Question Three: Professional Skills

Is there a difference in the professional skills of certified teachers with appropriate endorsements (in-field) and certified teachers without appropriate endorsements (out-of-field)?

The mean scores for each of the five effective teaching functions identified on the CTPAS are presented in Table 7 for in-field and out-of-field teachers. Teacher scores presented are the average of the two ratings. The t-test analysis yielded no significant difference on Functions 1,2,4, or 5. However, a significant difference was observed in Function 3, Instructional Presentation ($t=2.91$, $p < .01$).

TABLE 7

MEAN RATINGS OF TEACHERS FOR THE FIVE EFFECTIVE TEACHING FUNCTIONS

Functions	Ratings for In-Field Teachers [a]		Ratings for Out-of-Field Teachers [a]		
	$\overline{X}$	SD	$\overline{X}$	SD	t
1. Instructional Time	3.5972	.974	3.2111	.951	1.20
2. Student Behavior	3.5833	.947	3.2250	1.028	1.09
3. Instructional Presentation	3.6389	.892	2.7805	.879	2.91*
4. Instructional Monitoring	3.66665	.931	3.1556	.997	1.59
5. Instructional Feedback	3.68055	.954	3.1111	.973	1.77

a= n=18

* $p < .01$

Function 3, Instructional Presentation, includes ten observable teaching practices associated with the actual instructing of students. The results of these ratings reveal that in-field teachers exhibited the use of these effective teaching practices significantly more successfully than did out-of-field teachers.

The researchers analyzed a number of other factors that could possibly be associated with teaching effectiveness: (1) years of experience, (2) years of experience teaching mathematics, and (3) college/university degrees. Chi-square analysis yielded no significant difference on any of the factors analyzed.

CONCLUSION AND IMPLICATIONS

As stated earlier, the intent of this research was to investigate the differences between certified and non-certified mathematics teachers at the middle school and high school levels. These differences were measured by student achievement, teacher knowledge of mathematics and professional teaching skills as observed in the classroom. The results of the study indicate that student achievement is greater in general mathematics and algebra when the students are taught by teachers certified in mathematics. The other significant relationships established were: (1) teachers' knowledge of algebra and (2) teachers' instructional presentation.

It should be remembered that all teachers involved in this study were certified teachers. Half of the teachers were certified in math (in-field) and the other 18 were teachers holding certification in some other areas (out-of-field). The in-field teachers scored significantly higher in algebra, but not arithmetic, not an altogether unexpected finding considering the course requirements necessary to become a certified math teacher.

The in-field teachers also scored significantly higher on the instructional presentation (Function 3) of their lessons. This result suggests the possibility that teachers who are more knowledgeable in mathmetics are more successful in presenting such material to students. This combination of knowledge and instructional presentation skills may be the resulting cause of higher scores obtained by students taught by in-field teachers.

It is interesting to note that when the data were analyzed by sub-groups (years of teaching experience, years of experience teaching math, and degree held by teachers, bachelors or advanced) no significant differences were found between in-field and out-of-field teachers. Likewise, no significant differences were found between any sub-groups of in-field teachers. The same absence of significance was reported within the sub-groupings of the out-of-field teachers. It would appear from these data that neither teaching experience nor level of degree had any bearing on either student achievement in math or the classroom performance of the teachers.

Thus, the conclusion of this pilot study is that in-field certified math teachers know more algebra, they show evidence of using more effective teaching practices, and their students achieve at a greater level than out-of-field teachers of mathematics.

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Preservice Performance And the National Teacher Exams

by Jerry W. Andrews, C. Robert Blackmon, and James A. Mackey

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Is the National Teacher Examination (NTE) useful for identification of effective prospective teachers? This is a question of importance not only among professionals in the states[1] currently and controversially making various uses of NTE scores but also in other states interested in using the NTE.

To consider this question, we examined the relationships among undergraduate grade-point averages, student teacher performance, and NTE scores for 269 students who completed student teaching and voluntarily took the NTE between 1975 and 1978. The data included the students' overall grade-point averages, NTE scores (weighted common;[2] selected area examinations; and a composite of the weighted common score plus the teaching subject-area exam score); supervising teachers' ratings of student teachers on 22 teaching performance items; teaching level (elementary, secondary, and 1-12); and sex. The results of only four of the 26 NTE teaching subject-area examinations were treated in this study. The number of students taking the other area examinations was too few to yield significant results. Pearson product-moment correlations were calculated with the data used.

For elementary students, a highly significant relationship (.001) was found between the weighted common score and the grade-point average. Significant relationships (.05) were found between the weighted common scores and three student teaching performance item ratings: appearance, enthusiasm, and English usage. The relationship for the voice rating approached significance. The relationship between the NTE elementary area examination and general information rating was highly significant (.001); English usage, voice, and interest/concern for pupils were significantly related (.01 to .05). Significant relationships were found between the NTE composite scores and student teaching ratings on enthusiasm, English usage, voice, and general information. The composite score and the grade-point average correlated at the .0001 level of significance.

For secondary English majors who took the English language and literature area examination, significant relationships (.05) were found between the NTE weighted common score (WC) and subject-matter knowledge in student teaching, between the WC score and the supervisor's rating of the student's general information during student teaching, and between the WC and the student's cumulative grade-point average. For the NTE English area examination and the student teaching performance general information rating, the relationship was significant also (.05). Similarly, the subject-matter and general information ratings were significantly related (.05) to the broader NTE composite score.

A significant but negative relationship (.05) was found between the NTE physical education teaching area examination and the professional attitude rating assigned by supervisors to student teachers. No other significant relationships were found for this teaching area exam.

Student teacher majors in special education (who took the NTE area examination for teachers of the mentally retarded) demonstrated a significant relationship (.02) between the NTE weighted common examination and grade-point average. A significant (.03) but negative relationship was found between the weighted common examination and the overall performance ratings in student teaching of the special education majors. Also, a highly significant (.005) but negative relationship was found for these students between the NTE composite score and the overall rating. A highly significant (.004) but negative relationship was found between the scores of the student teachers on the NTE area examination for teachers of the mentally retarded and their overall student teaching performance ratings.

The significant relationships found between the NTE weighted common scores and cumulative grade-point averages for all subject areas (except physical education) suggest that academic performance is a useful predictor of NTE scores.[3] This conclusion is supported by the similar significant relationships found between the NTE composite scores and the grade-point averages. The data in this study indicate that the NTE is valid for what is taught in the college classroom but not necessarily for predicting teacher performance, a conclusion in keeping with the NTE literature.

The sparsity in this study of significant positive relationships between the NTE scores and teaching performance ratings, when coupled with the presence of a few significant negative relationships, tends to undermine confidence in the relationship of NTE scores to teaching performance ratings. This could be because factors measured by supervising teachers and the NTE are not necessarily the same factors and perhaps do not include certain (as yet unidentified) performance characteristics essential to successful teaching. However, our previous studies of supervising teachers' ratings of student teaching performance indicate that the difficulty may lie with the ratings themselves rather than with the NTE scores.[4]

In sum, the findings in this study did not resolve the continuing controversy concerning the usefulness of the NTE for identification of effective prospective teachers. Perhaps the important contribution of the NTE is to offer an objective measurement of academic preparation not as subject to institutional idiosyncratic variation as are grade-point averages.

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[1] Among them are Alabama, Louisiana, North Carolina, South Carolina, and West Virginia. Mississippi is currently involved in a validation study of the NTE. West Virginia and Alabama are using the NTE in studies of teacher education programs. In relation to *U.S. v. State of South Carolina*, see Thomas R. McDaniel, "The NTE and Teacher Certification," *Phi Delta Kappan*, November 1977, pp. 186-88.

[2] The National Teacher Examinations are standardized, secure tests that provide objective measures of academic achievement for college seniors completing teacher education programs and for advanced candidates who have received additional training in specific fields. The tests consist of the Common Examinations (three hours, 15 minutes) and 26 Area Examinations (two hours each). The former are divided into four tests covering two categories: professional and general education. Professional education, the first test, includes questions related to the social and cultural forces that influence curriculum and teaching as well as questions dealing with general principles of learning and instruction. The other three tests, which measure general education, are Written English Expression; Social Studies, Literature, and the Fine Arts; and Science and Mathematics. The Area Examinations measure understanding of the content and methods applicable to the separate subject areas.

[3] Jerry W. Ayers, "Relationship of Selected Variables and Success in a Teacher Education Program," paper presented at the annual meeting of the American Personnel and Guidance Association, Atlanta, May 1973. In relation to secondary subject areas, see also: Stephen W. Brown, "The National Teacher Examination as an Instrument of Prediction of Teacher Success," paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1974.

[4] "Evaluation of Student Teachers: Ratings by Supervising Teachers on Nine Performance Variables," *National Association of Laboratory Schools Journal*, October 1977, pp. 23-29. See also: "Does Academic Achievement Make a Difference in Student Teaching?," *Phi Delta Kappan*, December 1977, pp. 272, 273. ☐

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The Case For Teacher Education: Open and Shut

James D. Greenberg

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General Argument

The theme of the case "for or against" teacher education is an appropriate angle from which to view the current scene. Teacher education today is faced with its share of accusers, defendants, self-appointed witnesses, and judges. The trial is being repeated in local, state, and national arenas, before grand and not-so-grand juries, and the arguments seem infinitely complex. But it is, on a fundamental level, an open and shut case and that deserves to be made clear.

> ***If teacher education is not done with reason, care and knowledge, it will be done through unexamined experience, innuendo, media blitz, untutored bias, and chance.***

It is dangerous and irresponsible, even fallacious, to argue against the basic concept of teacher education. Teacher education is a fact — just like sex education — whether it's done on purpose, in an organized program, or not. It takes place all the time, every day, in formal, informal, direct, and indirect contexts. If teacher education is not done with reason, care and knowledge, it will be done through unexamined experience, innuendo, media blitz, untutored bias, and chance. The question is not, then, whether we should have teacher education or not; rather, it is a question of how we will have it and how good it can be.

When teacher education has been indicted unfairly, it has usually been indicted for its pieces. The case against a piece has been generalized and transformed into a case against the "institution." However, if teacher education is truly *educational*, there is no case against it. The education of a professional, one who makes numerous and complex decisions, is crucial; if it is reasonable to assume that an informed decision maker is preferable to an uninformed one. If, on the other hand, the indictment is really against "teacher education" that is in fact *indoctrination*, or against teacher education schemes which are not effective, then the case is against poor programs, limited programs, or individual poor teacher educators, but not against teacher education *per se*.

A person seeking to teach, to become a professional, must become knowledgeable about the nature of the client and the nature and tasks of the teacher's role; must become a critical and informed analyst of the micro- and macro-contexts in which teaching occurs; and must develop refined skills in applied settings. The case for teacher education is built on recognition of these needs and on the conviction that they can best be met through an organized program that facilitates the necessary preparation and development. If what we know about teacher education is imperfect, and if what exists has vulnerable spots and weaknesses, such realities do not defeat the case. To conclude, as some have, that we should abandon the work because it has not been optimally perfected is a precipitous leap and a gross distortion of responsible criticism.

Research Evidence

In pursuing the idea of a case for or against teacher education, this writer has interpreted the question literally — as, in fact, it has been treated in some very influential "tribunals." The fundamental issue deserves to be faced. However, in looking for direct pertinent evidence, it might appear that the question is just *too* fundamental. Taking the question literally, one can ask if it's better to train for "something" as opposed to "not training." The assumption of professional trainers is that it's obvious that training is more effective than not training. Even if "raw material" is a more important factor than training, that's a different point. The trained person with the same quality talent will exhibit more of the behaviors which the training is designed to foster. One would expect to find a load of material on the question of what is the best way to train teachers, but not on the question of whether they should be trained at all. Surprisingly enough, however, there have been some studies which dealt with the matter of direct comparison of teacher performance of professionally trained versus non-trained teachers.

> ***A person seeking to teach, to become a professional, must become knowledgeable about the nature of the client and the nature and tasks of the teacher's role; must become a critical and informed analyst of the micro- and macro-contexts in which teaching occurs; and must develop refined skills in applied settings.***

In 1960, John Beery conducted a direct comparison study with a grant from the Ford Foundation. He explained that the comparison was only made possible because of the great and sudden demand for teachers at that time, thus generating a group of "emergency" certified teachers with little or no professional training. His hypothesis was that if emergency teachers were doing as well as regularly certified teachers, the teacher education program in colleges and universities could be eliminated.

Beery's (1960) study involved a sample of 76 pairs of emergency and regularly certified teachers matched on a variety of factors including G.P.A. and credits earned in

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the subject area. Trained observers were used to compare teaching performances. The study concluded that:

> On the basis of systematic classroom observations, the fully certified beginning teachers who had completed the prescribed courses in education were consistently and significantly rated by competent observers to be more effective than the provisionally certified teachers who lacked all or part of the sequence in education courses. (p. 54)

He also noted that comparisons of subscores favored fully certified teachers in almost all cases (25 out of 30) in regard to statistically significant pair differences. The differences in ratings on teaching effectiveness were associated with differences in *professional preparation* (italics added) rather than with differences in background factors such as grades in college, amount of work in the subject taught, interview scores, age, or recency of graduation" (p. 54).

In a similar comparison study, Bledsoe, Cox, and Burnham (1967) studied beginning teachers in Georgia from 1964-1967. A major objective was to study samples of "provisionally" certified (no professional sequence) teachers and "professionally" certified (with professional sequence) teachers, comparing them on performance and effectiveness. (p. 3)

The study involved five groups of randomly selected beginning teachers in both certification categories and included elementary teachers and science, social studies, English, and math teachers at the secondary level. The results showed: (a) Provisionally certified teachers dropped out more than professionally certified teachers (59% to 36% after the first year); (b) Professionally certified teachers were much more satisfied with teaching than "provisionals" and had better attitudes toward teaching; and (c) Professionally certified teachers were "overall more competent" and specifically more competent in a number of skill and behavior areas. (Bledsoe, et el., p. 242)

A more recent study of this type was done by Patrick Copley in 1975. This study compared stratified samples of three groups of beginning teachers: (a) teachers with liberal arts degrees and no education training; (b) teachers with liberal arts degrees and some education courses but no student teaching; and (c) teachers with a bachelor's degree in education including student teaching and a full teacher education program. All the subjects graduated from the same university.

The groups were compared using principals' ratings on a common instrument. Results showed that the fully trained group obtained statistically significant higher ratings in six areas, including effective communication skill use, classroom management, fairness in relations with pupils, and effective teaching results. There was no difference in personality characteristics or physical or emotional health (Copley, 1975).

Patricia Murphy conducted a study in North Dakota in 1972 to determine if specific training in certain teaching strategies persisted through the first year of teaching. She compared two "trained" groups (each trained in the same areas, but using different training methods) with a group not trained in using these strategies. The results showed a statistically significant difference with the trained groups demonstrating greater variety in strategies than the non-trained group. The strategies which persisted in the trained groups showed more reflective, participatory, involving, and abstract types than the control group. While the two "trained" groups were trained differently, there was no significant difference between them. The trained groups both outperformed the control group. This is one of many studies which show that training makes a difference in producing specific desired behaviors. The big question that remains is whether the behaviors are valid.

Turner (1975) narrowed the research in teacher education to studies relating teacher education programs or strategies to success criteria which he developed. Based on that criteria, he cites Borg's research demonstrating the effectiveness of his Far West Laboratory materials. In that research, and in similar research on microteaching which Turner cites, training procedures are shown to have specific effects in producing the desired behaviors in teachers or in preservice students. Another study, which had somewhat different dimensions, was a correlational study by Robert Ducharme, reported by Turner. Ducharme looked at scores of 105 elementary school teachers on college entrance exams, N.T.E. exams, grade point averages, student teaching ratings, and nine personal factors to predict principals' ratings and pupil growth. While the teachers' exam scores and G.P.A. showed little or no correlation with "success," the student teaching performance and preservice experience of working with children both showed significant correlations with principals' ratings and with pupil growth.

The case for teacher education may in fact be a case for improved resources, longer and deeper programs, more systematic and comprehensive treatment, and attraction of better students.

Opponents of teacher education programs often cite Popham (1971) and Bausell and Moody (1973) whose studies demonstrated insignificant effects of training on effective teaching performance. In these studies, experienced/trained teachers were compared with non-trained teachers using performance tests related to specified objectives. The "novices" did as well (or poorly) as the trained professionals leading the researchers to conclude that the training was poor, unnecessary, or ineffective.

These studies and conclusions have been rebutted in several quarters. Good, Biddle, and Brophy (1975) cite Glass' indictment of the methodology and criteria used in the Popham and related studies. These researchers join with Glass in emphasizing the need for research in natural settings and over a longer period of time if important differences between experience and non-experience and training versus non-training are to be illustrated. Turner (1973) also blasts the Popham, Bausell and Moody conclusions for their gigantic leap from small, narrow, suspect studies to a general indictment of all of teacher education; and for the undependability of the evidence itself. Turner also notes the important difference between a very complex role and an isolated task within that role. He states unequivocally, "there is no foundation whatsoever for the conclusions drawn" (p. 299).

The Case For More

While it may not be possible to find conclusive evidence on a question which is in an inconclusive state, the case *for* teacher education still seems strong. Nevertheless, the argument needs elaboration since the case for teacher education as a valuable entity is not necessarily a case for what is. There is little question that the present state of teacher education does not represent the potential of what it could be. Instead, recognition of its importance and the significant role played by teacher education in relation to the whole educational enterprise raises doubts about the status quo.

What emerges, following this observation, is that the case for teacher education may in fact be a case for improved resources, longer and deeper programs, more systematic and comprehensive treatment, and attraction of better students. It is a case buttressed by the increasing complexity and difficulty of the teacher's charge, the growing knowledge base, and the apparent trend toward erosion of the professional teacher's role in favor of something approaching the role of industrial worker. All of these realities suggest the need for teachers to learn more, to be able to do more, and to be thoroughly competent professionals whose influence may make a positive difference in the quality of education. If teacher education was important before, the case now is a case for "more."

This idea, that more and better attention should be accorded to teacher education, has been a case well made by numerous informed professionals and organizations. A brief overview of four categories of need may serve to round out the case being presented.

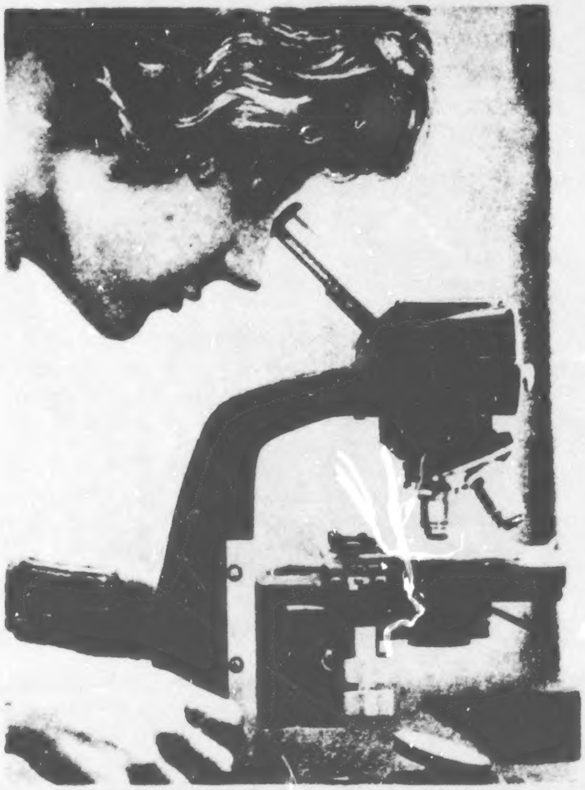

Photo by ITS Photography, University of Wisconsin-Stout

The case for teacher education is a case for a continuum of teacher education which extends into initial teaching practice and continues through veteran inservice levels.

1. Teacher education, in most of its present forms, is too short, and too thin. Along with many others, Morris Cogan (1975) has observed that the complexities and demands of contemporary education, coupled with the task of unlearning the lessons of traditional classrooms, require extensive additions to teacher education practice. He proposed "a graduate program of at least three full years" (p. 212). He summed up his views by saying, ". . . The heresy of the three-year teacher education program must be tacked up on the door for all to see, because in our view no one- or two-year plan of teacher education has yet been proposed that holds any promise of turning out beginning teachers who possess even minimal initial competencies needed in contemporary schools" (p. 213).
2. Along with the need for more thorough and extensive preservice programs, the case for continuing teacher education can and has been made. In the often cited work, *Educating a Profession*, the authors assert, "To meet its responsibilities to society, the teaching profession requires a significantly enlarged and expanded initial preparation program as well as much more adequate attention to inservice and continuing education" (Howsam, Corrigan, Denemark, & Nash, 1976, p. 42). This assertion implies that the case for teacher education is a case for a continuum of teacher education which extends into initial teaching practice and continues through veteran inservice levels. The effectiveness of professional development could be strengthened if the educational and growth experiences of teachers were better attended to and articulated throughout the range of professional careers.
3. Finally, the case for teacher education should also be a case for a comprehensive and critical content which goes beyond skill and knowledge development and encompasses ethical and analytical dimensions. The education of teachers, at both preservice and inservice levels, comes up short if it does not provide for examination of the dynamics of context forces, questioning of assumptions, and exploration of ethical implications. For teacher education is not education at all if it does not enhance the full range of its potential to improve and does not attend to the fundamental questions which relate to the heart of its purposes.

The brief elaborations noted above are intended to expand the case and add to its substance. On the simple question of whether or not to have teacher education, the case is open and shut. On the not so simple question of what teacher education should become, we have some good clues, but the case is still open and the jury is still out.

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PRE-TEACHING EXPERIENCES AND ATTITUDES: A QUANTITATIVE SYNTHESIS

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Pre-student teaching field experiences are required by the National Council for the Accreditation of Teacher Education (Standards for the Accreditation of Teacher Education, 1979), and recommended by the National Association of State Directors of Teacher Education (Standards for State Approval of Teacher Education, 1979). Individual states, such as Ohio, have specified that all certification candidates should have field experiences in various types of school setting (Standards for Colleges or Universities Preparing Teachers, 1975). Such experiencs are designed to test and shape attitudes about students and teaching, to help students make career decisions, and to assist neophytes in role acquisition, as well as to provide opportunities to practice specific teaching techniques.

The first experiences among novices in professional fields can produce joy and a sense of accomplishment. But, unpleasant, unanticipated experiences can cause alienation and self-doubt. The accommodation to the professional role can require great demands and personal adjustments. A review of studies dealing with teacher-role socialization concluded that beginning experiences may produce at least two types of psychological conflict (Walberg, 1970). The idealistic beginner's need to be humane and nurturant to children may conflict with the need to establish order and discipline in the classroom. From a quantitative synthesis of 24 studies of the effects of student teaching, Colosimo (1981) concluded that pupil-control attitudes on average shift from humane to custodial.

A second kind of major psychological conflict may occur when the novice is given early training and experience in one type of school, usually a middle-class suburban or university laboratory school, but confronts inner-city children for the first time at some point in professional socialization (Walberg, 1968). Although a variety of professional experiences may be constructive, questions should be raised concerning the effectiveness and consequences of such experiences and possible conflicts.

PURPOSE OF RESEARCH

With the rapid increase in the provision of early field experiences prior to student teaching, a number of educators have raised questions about the assumption that additional field experience will improve teacher preparation (Tabachnick, Popkewitz, & Zeichner, 1980; Zeichner, 1980). Considerable research has been conducted on the effects of such early experiences on the prospective teacher's attitudes but the results are often contradictory. For example, Austin-Martin, Bull, and Molrine (1981) found that participation in an early field experience program increased scores on the

Minnesota Teacher Attitude Inventory when compared with a group which did not participate in the program. Ingle and Robinson (196.), however, found no significant differences between the scores of students who participated in an observation program and the scores of those who did not participate. The purposes of the present paper are to synthesize the overall effects of pre-teaching experiences (prior to student teaching) and to examine the conditions in which such experiences may be more or less effective in promoting self-concept and constructive teaching attitudes.

METHOD

Studies were collected that examined the effects of various types of early field experiences upon the self-concept and attitudes of pre-service teachers. A computer search was made of Educational Resources Information Center (ERIC) files—*Resources in Education* and *Current Index to Journals in Education;* and of *Comprehensive Dissertation Abstracts*. The major descriptors used in the computer search were: self-concept, attitudes, tutoring, tutoring programs, early field experience programs, field experience programs, pre-service teacher education, and pre-service teaching experience. The bibliographies of the studies located through the computer searches provided a second source of studies.

Studies were included that reported on measured outcomes of teaching attitudes and self concept. Studies with two types of designs were included: those with control groups and posttests, and those with pretests and posttests with or without control groups. The selection of 38 studies was limited to those dealing with pre-student teaching field experiences in undergraduate teacher education programs and which provided sufficient data for calculating effect sizes (Glass, McGaw, & Smith, 1981).[1]

Coding of the Studies[2]

Forty-four study characteristics were coded for each of 141 effect sizes from the 38 studies. Initially the first two authors separately coded five studies, and compared and discussed their results. After agreement was reached on these, the second author coded the remaining ones. Questions that arose were resolved by consultation among the authors. Verification of coding procedures was obtained by coding a random sample of six studies; inter-coder agreement was over 90%.

Calculation of Effect Size

To quantify the effects on attitudes, effect sizes, defined as the difference between the means of the experimental and control group divided by the standard deviation of the control group, were calculated. For studies which had no control group, effect sizes were calculated from pre- and post-test measures. For less fully reported studies, effect sizes were calculated from statistics such as t and F using procedures described by Glass et al. (1981).

The effect sizes of two of the characteristics were "Winsorized" (Dixon & Massey, 1957) because at 3.56 and 3.16 respectively they were far from the main cluster of effects. The effect of Winsorizing the two comparisons is to neutralize their otherwise aberrant effects on the overall results.

Weighting Procedure

As a result of the variation in breakdowns of results, the range of effect sizes or comparisons in each study ranged from 1 to 17. If each effect size was weighted equally, studies with greater numbers of comparisons would receive greater weighting in the analysis. To insure that each study received an equal weight of one, a weight variable was calculated by taking the reciprocal of the number of comparisons in any given study. This weight variable was used in one-way analyses of variance (ANOVA) to test for significance for each of the coded factors.

RESULTS AND DISCUSSION

Prior to testing subject, the significance of distribution of effect size, treatment, and design factors were examined. The study weighted mean and standard deviation of effect sizes were .23 and .61. The associated t value of 4.43 is sufficient to reject the null hypothesis at a probability of less than .0001. The overall effect size of .23 indicates that the experimental group scored at the 59th percentile relative to the control group and pretest distribution. This suggests that on average pre-teaching experiences has a small but significant effect on teaching attitudes and self-concept.

However, there is considerable spread of effects; and 47% are negative. Table 1 presents a frequency distribution of the 141 effect sizes.

Specific Effects

Of the study variables spanning subject and set-

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[1] A list of the studies used in this meta-analysis may be obtained on request form Gordon E. Samson, College of Education, Cleveland State University, Cleveland, Ohio 44115.

[2] A copy of the coding manual used and of the complete data for Table 2 also may be obtained on request.

Table 1
Frequency Distribution of Effect Sizes

Class Intervals	Frequency
1.50 - 1.99	3
1.00 - 1.49	4
0.50 - 0.99	8
0.00 - 0.49	60
0.00 - -0.49	51
-0.50 - -0.99	14
-1.00 - -1.49	0
-1.50 - -1.99	1
TOTALS	141
M	.23
SD	.61

ting characteristics, the dependent measure, treatment characteristics, and design factors, few reached the .05 significance level. Several categories had unusually large or small effects but were based on only a few effect sizes, that is less than six, which were considered too few and unreliable to merit discussion. Also, in some study variables many of the larger and more significant effects occurred in categories such as "not specified" or "not reported." This means that many studies poorly specify the study conditions, treatments, and subject and setting characteristics and that such studies yield larger and probably biased effects. Such study variables are not reported here. More detailed specifications are certainly called for in subsequent research.

Source Characteristics

Journal articles and documents yielded larger effect sizes than did dissertations, which supports earlier evidence that unpublished dissertations produce smaller effects than published studies (Smith, 1980).

Subjects and Setting

Intensive field experiences not tied directly to other courses have greater positive effects than field experiences arranged as part of a psychology class, a methods course, or of an education block (a group of education courses taken during the same quarter or semester). Such field activity in specially designed settings may be more focused and effective.

Treatment and Design Characteristics

The experimental treatment (observation, tutoring, small group instruction, limited large group instruction, other types of experiences, or not specified) and the amount of experience (range: 20 hours or less to 150 or more) proved not to be significant. More explicit reporting of such alterable procedures might have produced significant results leading to important policy implications.

Studies which did not adequately control for mortality of subjects achieved expectedly higher effect sizes than more carefully designed studies and studies which appeared to be more generalizable to other situations yielded more conservative estimates of effect.

CONCLUSION

On the basis of 38 studies spanning several levels of preparation and types of teaching opportunities, early field experience is associated with gains in teaching attitudes. The relatively small overall effect is positive and statistically significant. It appears sufficient to encourage continued pre-teaching experience in schools for education majors. The experience appears to justify claims for its value. Such experiences do make the transition to student teaching and regular teaching more gradual, and some education students choose other majors as a consequence of what sometimes is an unexpectedly unpleasant experience.

The conclusions must remain somewhat uncertain, however, because relatively few rigorous field trials of early field experiences have been reported. The impact of early experience might be much larger or smaller than can be estimated. Nonetheless, future research could be made considerably more valid and conclusive; and it can be hoped that future syntheses will be more definitive.

Table 2
Means, Standard Deviations, Number of Comparisons, and F Values of Effect Sizes for Selected Independent Variables

	$\bar{X}^a$	SD	N	ANOVA $F(df_1,df_2)^b$	P
Source Characteristics				10.85***(2,138)	.0001
Journal	.442***	.528	52		
Resources in Education Document	.419***	.678	22		
Dissertation	-.009	.569	67		
Subjects and Setting					
Base				4.48***(6,134)	.0004
Part of a Psychology Class	.119	.515	27		
Special Field Experience Course	.683***	.323	7		
Part of a Methods Course	.094	.543	40		
Part of an Education Block	.074	.746	59		
Part of a Science Course	.908***	.294	2		
Student Teaching Group	.262	.509	4		
Other	.622***	.208	2		
Design Quality					
Mortality				3.86**(2,138)	.0234
Probable Threat	.293***	.436	11		
Adequately Minimized	.169***	.626	126		
Not Enough Information	.681***	.308	4		
Generalizability				5.76***(2,138)	.0039
Probable Threat	.456***	.466	31		
Adequately Minimized	.113*	.641	108		
Not Enough Information	-.061	.305	2		

Note:

a = Asterisks indicate that mean is significantly different from zero.

b = Asterisks indicate significance of F.

* = p < .10

** = p < .05

*** = p < .01

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Current Practices

A CARNEGIE FOUNDATION TECHNICAL REPORT

The Condition of Teaching

A STATE BY STATE ANALYSIS

C. EMILY FEISTRITZER

WITH A FOREWORD BY

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ADVANCEMENT OF TEACHING
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CHAPTER VI

Teacher Education and Certification

Teacher Certification

Professional school personnel in public elementary and secondary schools in every state are required by law or regulation to hold certificates issued by the designated legal authority (usually the state department or board of education) (Table 56). Three states—Minnesota, California, and Oregon—have separate state level commissions for teacher standards.[43] States exercise their authority over the certification of teachers by either approving collegiate programs of preparation or by reviewing the credentials of individual candidates to see that specific certification regulations are met. Forty-nine states do both. Only Mississippi does not approve programs.[44]

Since the majority of teachers in the United States have graduated from approved programs, the standards used to approve teacher education programs are of more significance than the individual certification requirements. States use one or more of the following standards to evaluate teacher education programs:

- National Council for Accreditation of Teacher Education
- National Association of State Directors of Teacher Education and Certification
- Regional Accrediting Association
- Specialty Organizations
- State Guides/Standards
- State Law

National Council for Accreditation of Teacher Education: The National Council for Accreditation of Teacher Education (NCATE) has been accrediting programs in teacher education for approximately 30 years. Originally established by a coalition representing the American Association of Colleges for Teacher Education (AACTE), the National Education Association (NEA), and the chief state school officers, NCATE was designed to protect the integrity of teacher education through peer

TABLE 56. Standards used for approval of teacher education programs, by state: 1983

State	National Council of Accreditation of Teacher Education	National Association of State Directors of Teacher Education and Certification	Regional Accrediting Association	Specialty Organizations[a]	State Guides/ Standards	State Law
Alabama	X		X		X	
Alaska			X			
Arizona	X		X		X	
Arkansas						
California			X		X	
Colorado					X	
Connecticut	X	X	X			
Delaware		X				
Florida				X		
Georgia			X		X	
Hawaii		X	X		X	
Idaho		X				
Illinois					X	
Indiana	X		X		X	
Iowa					X	X
Kansas					X	
Kentucky	X	X			X	
Louisiana	X		X		X	
Maine					X	
Maryland	X	X				
Massachusetts					X	
Michigan		X			X	
Minnesota	X	X	X	X	X	
Mississippi	X					
Missouri	X		X		X	
Montana	X	X	X		X	
Nebraska	X				X	
Nevada					—[b]	
New Hampshire						
New Jersey		X			X	
New Mexico	X		X		X	
New York					X	
North Carolina					X	
North Dakota	X		X		X	
Ohio			X	X	X	
Oklahoma					X	
Oregon	X	X	X			
Pennsylvania	X		X		X	
Rhode Island						
South Carolina						
South Dakota	X				X	
Tennessee	X	X	X	X	X	
Texas					X	
Utah	X	X			X	
Vermont	X				X	
Virginia	X	X	X	X		
Washington	X				X	
West Virginia						
Wisconsin		X		X	X	X
Wyoming	X		X			
Totals	24	17	20	6	34	2

[a] Subject matter and special program organizations, for example, the National Council of Teachers of Mathematics and the Council for Exceptional Children.

[b] Working on state approval process

SOURCE: Compiled by Feistrizer Publications, Washington, D.C.

assessment and self-regulation. While a minority of institutions (40 percent) belong to NCATE, a majority of the larger institutions are members. They represent about 80 percent of the candidates who become teachers. In the past few years NCATE has been reorganized and has taken a more vigorous role in declaring itself to be the "standard bearer" for the profession.

NCATE has established two levels of standards: basic for entry level programs and advanced for graduate or postbaccalaureate programs. The standards are organized into six broad categories. "Institutions are to determine objectives, decide who the students will be or describe who they are, collect appropriate faculty and physical resources to support the program, and evaluate the results in a systematic fashion. In addition, the entire enterprise must be under the control of a 'designated' unit of the faculty."[45] The major difference between NCATE and the state approval standards is that NCATE is voluntary while the state standards are mandatory.

National Association of State Directors of Teacher Education and Certification: The National Association of State Directors of Teacher Education and Certification (NASDTEC) Standards have been developed over the past 21 years. Beginning with the United States Office of Education Circular No. 351, Proposed Minimum Standards for State Approval of Teacher Preparing Institutions, the standards have been revised approximately every two years. Because the standards have been developed by state education personnel with responsibilities for teacher education and certification, the NASDTEC standards have been widely used in state approved program procedures. Twenty-six states have reported they use the NASDTEC standards in whole or in part. The standards address the organization and administration of teacher education, curriculum principles and standards for basic and advanced programs, innovative and experimental programs, and standards for approving competency-based or performance-based programs.

State Standards: State standards vary widely. In most cases, the state standards reflect the specificity in the individual certification regulations as well as features of the NCATE and NASDTEC standards. Examples of state standards follow:[46]

California: The Institution of Higher Education (IHE) must assure that programs address 27 competencies specified by the Commission. The IHE must also assure commitment of the chief administrator of the institution and involvement of practitioners in the certification area and members of the public in program development. IHEs must conduct graduate follow-up studies to be used in program revision, specify procedures to be used for evaluating candidates prior to certification, and conduct needs analyses in nearby school districts at least every four years.

Illinois: The state board has an elaborate set of program approval standards which, while granting maximum policymaking authority to IHEs, assure that the institutions have policies on a variety of issues often not mentioned in program approval in other states. For example, the IHE must document the need for the program, analyzing the available supply of teachers in the subject matter field and grade level, and demonstrate that the program is planned to develop capacities identified as important needs assessments of Illinois' public schools.

Interstate Certification: Eight states report that 65 percent of their beginning teachers came through approved programs within the states; 31 percent of their

TABLE 57. Beginning teachers from selected state's own approved programs and from out of state: 1982

State	Number of beginning teachers	Number of beginning teachers from state's approved programs	Number of beginning teachers from out of state
Hawaii	505	497	8
Maryland	810	667	143
Michigan	950[a]	859	91
Montana	400	240	160
North Dakota	300	50	250
Utah	1445	873	178
Virginia	2962[a]	1402	1558

[a] 1981-82 figures

[b] Estimates

SOURCE: National Education Association. Standards and Certification Bodies in the Teaching Profession (Washington, D.C.: 1983) p. 33

beginning teachers came from out of state. If this sample is representative of the rest of the country, approximately two-thirds of the country's beginning teachers come from in-state approved programs, with the majority of the remaining teachers coming from out of state, many of whom completed approved programs in other states (Table 57). These statistics vary widely from state to state. Almost all beginning teachers in Hawaii come from approved programs within the state while only one-sixth of the beginning teachers in North Dakota come through North Dakota's state approved programs.

The ease with which teachers can move from state to state has been facilitated by the Interstate Certification Project which is now administered by NASDTEC. Under the ICP agreements, a state enters into contractual agreements with other states. A recent survey revealed that 30 states now have some form of reciprocity with other states.[47]

Certification Requirements

Individual certification requirements vary from state to state (Tables 58 and 59). All states now require a bachelor's degree in order to get a license to teach. As recently as 1970 that was not the case. Only one state, Connecticut, requires more than a bachelor's degree in order to get a beginning teaching certificate at both the elementary and secondary levels. Seven states reported requiring at least a 2.5 grade point average in general education, the field of teaching specialty, and in pedagogy in order to be certified to teach. They are Connecticut, Hawaii, Kansas, Kentucky, Montana, New Jersey, and North Dakota.

Student Teaching

Thirteen states report requiring at least one semester of student teaching for elementary and secondary prospective teachers (Tables 60 and 61). Most student teachers have only one placement, with only three states reporting two placements for both elementary and secondary student teachers. States vary considerably in the length of time required for the student teaching experience—from five weeks in Missouri to fifteen weeks in Delaware. A student generally has one placement in his or her specialty and very little exposure to students from varied socioeconomic levels or bilingual or multicultural populations.

Certification Process

The policies that govern the certification process from state to state vary as much as the certification requirements (Table 62).

Forty-one states base their determination of who is certified to teach on whether or not the prospective teacher has a degree from a teacher preparation program previously approved by the state. Only four of the 45 states reporting—Hawaii, Missouri, Nevada, and Oklahoma—do not use the approved program approach in granting beginning teacher certificates.

Alabama and Oklahoma require passage of a state examination and North Carolina requires passage of the National Teacher Examination (NTE) of their in-state graduates. California, Nebraska, and Wyoming require passage of a state examination and Louisiana and North Carolina require passage of the NTE of their out-of-state prospective teachers.

Seventeen states issue a permanent teaching certificate to beginning teachers. They are California, Colorado, Connecticut, Delaware, Indiana, Massachusetts, Michigan, Missouri, Montana, New York, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Washington, and Wisconsin.

Most states renew teaching certificates after five years. However, Louisiana and Pennsylvania renew the certificates of their teacher, after three years. Five states—Delaware, Iowa, Kentucky, Maryland, and Tennessee—report waiting ten years before a teacher comes up for certification renewal.

Twenty-one states require graduate credits before they will renew a teacher's certificate. Ten of these states also require in-service education hours. Four—California, Idaho, Illinois, and Ohio—require only that a fee be paid in order to renew a license to teach.

Certification in Field of Teaching

Nearly 94 percent of newly graduated full-time elementary and secondary school

TABLE 58. Requirements for initial teaching certificate: elementary, by State: 1983

	Degree			General Education		Teaching Speciality		Pedagogy	
State	Bachelor's	Bachelor's + 30	Bachelor's + Master's	Percent of B.A.	Minimum Achievement	Percent of B.A.	Minimum Achievement	Percent of B.A.	Minimum Achievement
Alabama	X			45	1.2	25	1.2	30	1.2
Alaska	X			—[a]		—[a]		—[a]	
Arizona	X			40	2.5	25	—[a]	20	—[a]
Arkansas *									
California	X			—[a]	—[a]	—[a]	—[a]	—[a]	—[a]
Colorado	X			40	2.0	60	2.0		
Connecticut	X	X	X	25	2.5	60	—[a]	25	2.5
Delaware *									
Florida	X			50	—[a]	10		40	
Georgia	X			(60 qh)	C	(45 qh)	C	(30 qh)	C
Hawaii	X			44	2.5	24	2.5	33	2.5
Idaho	X			20	2.0	30	2.0	30	2.0
Illinois	X			65	C	13	C	13	C
Indiana	X			—[b]	C	—[b]	C	24	C
Iowa *									
Kansas	X			35	2.5	10-15	2.5	10-15	2.5
Kentucky	X			33	2.5	25	2.5	25	2.5
Louisiana *									
Maine	X			25		—[a]	—[a]	—[a]	—[a]
Maryland	X			63		21		16	
Massachusetts	X			—[a]		—[a]			
Michigan	X								
Minnesota	X			—[a]		—[a]			
Mississippi	X			35		50		15	
Missouri	X								
Montana	X			50	2.5	25	2.5	20	2.5
Nebraska	X			25-50[b]	—[a]	50	—[a]	25	C
Nevada	X					—[a]			
New Hampshire *									
New Jersey	X			50	2.5	25	2.5	20	2.5
New Mexico	X			57	2.0	28	2.0-2.7	28	C-B[a]
New York	X			—[a]		—[a]			
North Carolina	X			20	—[a]	40-60		20	
North Dakota	X			30	2.5	48	2.5	17	2.5
Ohio	X			—[a]		—[a]			
Oklahoma	X			42		20		17.5	
Oregon	X			—[a]		—[a]		—[a]	
Pennsylvania	X			—[a]		—[a]		—[a]	
Rhode Island *									
South Carolina *									
South Dakota	X			40	2.2	60	2.2		
Tennessee	X			(60 qh)		(36 qh)		(36 qh)	
Texas	X			30	—[a]	28	—[a]	24	—[a]
Utah	X			35-40	C+	30	C+	20	C+
Vermont	X								
Virginia	X			38		48		14	
Washington	X			—[a]		25	—[a]	25	—[a]
West Virginia *									
Wisconsin	X			33	—[a]	(34/18sh)[c]		(26 sh)	—[a]
Wyoming	X			46		—[a]	C	20	C

qh = quarter hours
sh = semester hours
[a] Varies
[b] General Education and subject matter listed together
[c] Minimum of 34 semester credits for major, 18 for minor
* States did not respond to survey

SOURCE: National Education Association, Standard's and Certification Bodies in the Teaching Profession (Washington: 1983) p. 36

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TABLE 59. Requirements for initial teaching certificate—Secondary, by state: 1983

State	Degree: Bachelor's	Degree: Bachelor's + 30	Degree: Bachelor's + Master's	General Education: Percent of B.A.	General Education: Minimum Achievement	Teaching Speciality: Percent of B.A.	Teaching Speciality: Minimum Achievement	Pedagogy: Percent of B.A.	Pedagogy: Minimum Achievement
Alabama	X			45	1.2	25	1.2	30	1.2
Alaska	X			—a		—a		—a	
Arizona	X			40	2.5	25	—a	20	—a
Arkansas*									
California	X			—a	—a	—a	—a	—a	—a
Colorado	X		X	40	2.0	60	2.0		
Connecticut	X	X	X	30	2.5	—a	—a	17	—a
Delaware	X								
Florida	X			50	—a	25	—a	25	—a
Georgia	X			(60 qh)	C	(45–50 qh)	C	(30 qh)	C
Hawaii	X			44	2.5	24	2.5	33	2.5
Idaho	X			20	2.0	30	2.0	30	2.0
Illinois	X			35	C	16	C	13	C
Indiana	X			32	C	29–34	C	19	C
Iowa	X								
Kansas	X			35	2.5	15–20	2.5	5–10	2.5
Kentucky	X			33	2.5	25	2.5	20	2.5
Louisiana*									
Maine	X			25		—a	—a	—a	—a
Maryland	X			55		30		15	
Massachusetts	X			—a	—a	—a	—a	—a	—a
Michigan	X								
Minnesota	X			—a	—a	—a	—a	—a	—a
Mississippi	X			35		50		15	
Missouri	X								
Montana	X			45	2.5	25	2.5–3.0	25	2.5–3.0
Nebraska	X			25–30^{b}	—a	54	—a	16	—a
Nevada	X				—a				
New Hampshire*									
New Jersey	X			50	2.5	25	2.5	20	2.5
New Mexico	X			57	2.0	28	2.0–2.7	28	—^{a}
New York	X			—a		—a	—a	—a	—a
North Carolina	X			20	—a	40–60		20	
North Dakota	X			30	2.5	48	2.5	17	2.5
Ohio	X			—a		—a			—a
Oklahoma	X			42		20–30		17.5	
Oregon*									
Pennsylvania	X			—a		—a		—a	
Rhode Island*									
South Carolina*									
South Dakota	X			40	2.2	60	2.2		
Tennessee	X			(60 qh)		(36 qh)		(36 qh)	
Texas	X			30	—a	38	—a	14	—a
Utah	X			35–40	C+	37	C+	17	C+
Vermont	X								
Virginia	X			43–53		27–41		16–20	
Washington	X			—a		15	—a	15	—a
West Virginia*									
Wisconsin	X			33	—a	(34/18sh)^{c}		(18 sh)	—a
Wyoming	X			46					

qh = quarter hours
sh = semester hours
[a] Varies
[b] General Education and subject matter listed together
[c] Minimum of 34 semester credits for major, 18 for minor
* States did not respond to survey

SOURCE: National Education Association, Standards and Certification Bodies, 37

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TABLE 60. Practicum: student teaching--elementary, by state: 1983

	Length					Type of Student Teaching					
State	One Semester	Number of Weeks	Number of Quarters	Number of Hours	Varies	Number of Placements	Teaching only in Specialty	Cross-Level Teaching	Across Socio-economic Levels	Bilingual/ Multicultural	Varies
Alabama	X	10				1	X				
Alaska					X						X
Arizona					X						X
Arkansas											
California	X								X	X	
Colorado	X					1-2	X				
Connecticut				6-12sh							X
Delaware		15				1					
Florida		8-12				1		X	X		
Georgia	X					1	X				
Hawaii	X					1		X			
Idaho		8-12				2	X				
Illinois		6-9				1	X				
Indiana	X					1	X				
Iowa					X	1	X				
Kansas		8					X				
Kentucky		8									
Louisiana						1	X				
Maine					X						
Maryland		8-12				1					
Massachusetts				300 ch		1-2	X				
Michigan		10				1					
Minnesota					X						X
Mississippi		6				1	X				
Missouri		5						X			
Montana		8-12				1					X
Nebraska		9				1	X				
Nevada	X										X
New Hampshire											
New Jersey	X										X
New Mexico	X					1		X			X
New York		8-12				1					X
North Carolina				180 ch							
North Dakota		8-12				1	X				
Ohio			3						X		
Oklahoma	X					1	X				
Oregon		9				1	X				
Pennsylvania	X[a]					1					
Rhode Island											
South Carolina											
South Dakota		8-12				1					
Tennessee		6-9				1				X	
Texas		8-12				1		X			
Utah	X					1	X	X			
Vermont	X	6				1					
Virginia				120 ch		2+					X
Washington		6				1	X	X			
West Virginia											
Wisconsin		8				1	X				
Wyoming		8				1+	X	X	X		

sh = semester hours
ch = clock hours
[a] Some liberal arts institutions still require only part of a semester

SOURCE: National Education Association Standards and Certification Bodies, 1983 p. 40

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TABLE 61. Practicum: student teaching secondary, by state: 1983

State	Length					Type of Student Teaching					
	One Semester	Number of Weeks	Number of Quarters	Number of Hours	Varies	Number of Placements	Teaching only in Specialty	Cross Level Teaching	Across Socio-economic Levels	Bilingual/ Multicultural	Varies
Alabama	X	10				1	X				
Alaska					X						X
Arizona					X						X
Arkansas											
California	X							X	X		
Colorado	X					1-2	X				
Connecticut				6-12sh							X
Delaware		15				1					
Florida		8-12				1		X	X		
Georgia	X					1	X				
Hawaii	X					1		X			
Idaho		8-12				2	X				
Illinois		6-9				1	X				
Indiana	X					1	X				
Iowa					X	1	X				
Kansas		8					X				
Kentucky		12									
Louisiana						1	X				
Maine					X						X
Maryland		8-12				1					
Massachusetts				300 ch		1-2	X				
Michigan		10				1					
Minnesota					X						X
Mississippi		6				1	X				
Missouri		5						X			
Montana		8-12				1					X
Nebraska		9				1	X				
Nevada	X										X
New Hampshire											
New Jersey	X										X
New Mexico	X					1		X			X
New York		8-12				1					X
North Carolina				180 ch							
North Dakota		8-12				1	X				
Ohio			3						X		
Oklahoma	X					1	X				
Oregon		9				1	X				
Pennsylvania	X[a]					1					
Rhode Island											
South Carolina											
South Dakota		8-12				1					
Tennessee		6-9				1				X	
Texas		8-12				1		X			
Utah	X					1	X	X			
Vermont		6				1					
Virginia				120 ch		2+					X
Washington		6				1	X	X			X
West Virginia											
Wisconsin		8				1	X				
Wyoming						1+	X	X	X		

sh = semester hours
ch = clock hours
[a] Some liberal arts institutions still require only part of a semester

SOURCE: National Education Association, Standards and Certification Bodies, 1983, p. 41

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teachers were certified to teach in some field in 1981. Seventy-eight percent were qualified to teach in the field currently assigned in 1981,[48] compared to 69 percent in 1961.[49]

Teachers in public elementary schools are more likely to be qualified to teach in their principal assignments than are teachers in secondary schools. About 90 percent of new teacher graduates in preprimary or elementary schools were qualified to teach in their principal assignments in 1981, compared to 74 percent in public secondary schools and 68 percent teaching in combined elementary/secondary schools.[50]

New teachers in public schools are more likely to be certified to teach in their assigned field than those in private schools. Eighty-two percent of new teacher graduates in public schools were qualified to teach in the field they were assigned, compared to 70 percent in private religiously affiliated schools and 53 percent in non-religiously affiliated schools. Among new teachers in private non-religiously affiliated schools in May 1981, 23 percent lacked state certification to teach any field.[51]

TABLE 62. Certification process, by state: 1983

State	Approved Program Approach		In-State Graduates					Out-of-State Graduates								Fee
	Yes	No	Recommendations	Recommendation + Transcript	State Exam	National Teacher Examination	Other	Transcript Evaluation	Evaluation + Recommendation	Interstate Reciprocity Agreement	NCATE Program Approval	Equivalent Certificate	State Examination	National Teacher Examination	Other	
Alabama	X		X		X		X	X		X	X					$10
Alaska	X		X					X	X		X					$30
Arizona	X		X					X								$10[a]
Arkansas *																
California	X		X					X	X	X			X			$40
Colorado	X			X					X							$15
Connecticut	X			X				X	X	X						$15
Delaware	X		X							X						
Florida	X			X				X	X	X						$12
Georgia	X										X					
Hawaii		X														
Idaho	X			X				X								$20
Illinois	X		X					X								$20
Indiana	X			X				X		X	X					$ 5
Iowa	X			X				X	X			X				$15
Kansas	X		X						X							$13
Kentucky	X		X					X	X	X	X					None
Louisiana	X							X	X		X			X		None
Maine	X		X					X		X						None
Maryland	X		X					X		X	X	X				$10
Massachusetts	X			X				X		X						$10
Michigan	X		X					X	X	X	X					None
Minnesota	X			X				X								$35
Mississippi	X		X					X								None
Missouri		X[e]		X				X								
Montana	X		X					X	X	X						$20
Nebraska	X		X	X				X	X			X	X			$25
Nevada		X						X								$30
New Hampshire *																
New Jersey	X		X					X		X						$20
New Mexico	X		X	X				X								
New York	X		X					X		X						$10
North Carolina	X					X				X				X		$20
North Dakota	X		X						X							$ 5
Ohio	X		X	X						X						$ 2
Oklahoma		X	X	X	X			X	X							
Oregon	X		X						X							$25[g]
Pennsylvania	X		X					X		X						$15
Rhode Island *																
South Carolina *																
South Dakota	X		X					X	X	X						$10
Tennessee	X			X				X	X		X	X				$ 2
Texas	X		X						X							$17
Utah	X			X						X						$10
Vermont	X		X							X						$10
Virginia	X			X							X					
Washington	X			X				X		X						$15
West Virginia *																
Wisconsin	X		X					X								$30
Wyoming	X			X				X					X			

* States did not respond to survey.

SOURCE: National Education Association, Standards and Certification Bodies, 1983 p. 46

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Alternative Routes				Permanent Certificate Issued		Renewal Requirements								Fifth Year Required to Continue Teaching Time Allowed to Acquire	
Standardized Examination	Teaching Experience	Other Experience	B.A. + Graduate Hours for Certification	Yes	No	Frequency of Renewal (years)	5th Year	Graduate Credits	In-service hours	Experiential Learning	Payment of Fee Only	Other	Renewal Fee	Elementary	Secondary
					X	8		X	X				$10		
	X	X			X	5		X							
			X		X	6		X					$ 5		
[a]															
				X		5					X		$40		
X				X		5		X					$15		
				X											
				X		10									
					X	5		X	X				$10		
					X	7			X						
					X										
					X	5					X		$20		
					X	1					X		$ 4		
				X			X						$ 5	10 yrs	10 yrs
					X	10		X					$15		
		X[b]			X	5		X					$13		
					X	10	X						None		
					X	3						X[c]	None	3 yrs	3 yrs
					X	5			X				None		
					X	10	X	X	X			X[d]	$10	10 yrs	10 yrs
				X											
				X											
					X	5							$35		
					X	5		X	X				None		
				X											
		X[f]		X											
					X	5-7		X	X				$25		
	X				X			X	X				$10		
					X	5-10	X	X	X					8 yrs	8 yrs
				X											
					X	5			X				$15		
					X	5		X					$ 5		
				X							X		$ 2		
				X		5			X						
					X	3-5	X	X	X				$25		6 yrs
				X		3		X				X[h]	$15	3 yrs	3 yrs
					X	5		X					$ 5		
					X	10	X	X					None		
				X											
				X											
					X	1-10[i]		X							
		X		X			X	X					$15	7 yrs	7 yrs
				X[j]				X					$30		
					X	5		X							

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New Jersey State Department of Education
Trenton, New Jersey

An Alternative Route to Teacher Selection and Professional Quality Assurance: An Analysis of Initial Certification

Saul Cooperman, Commissioner

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New Jersey State Dept. of Education, 1984.

Elements of an Initial Certification Process

It is proposed that certification requirements be revised to be consistent with the State Board's new criteria for undergraduate preparation in such a manner as to provide maximum professional access as well as meaningful selectivity.

Therefore, revised certification standards should emphasize the assessment of outcomes which the State Board has identified as essential. These standards should also take into account approaches used by other professions and the need to obtain data on individual candidates. They should provide for a meaningful evaluation of minimum competence and should at the same time open access to as many candidates with diverse backgrounds as possible. It is recommended that this new structure include the following basic elements for initial certification.

1. The Baccalaureate Degree

All candidates for certification in New Jersey should be required to possess a baccalaureate degree from an accredited college or university.

The purpose in requiring a college degree is to provide assurance that our new teachers are educated individuals who have demonstrated their intellectual competence by meeting the academic standards of an accredited college or university. Historically, the higher education of teachers has not received much emphasis in New Jersey. It was not until the 1930s that the state recognized the baccalaureate degree as an essential requirement for entry into teaching. However, many teachers at that time did not possess degrees and the standard was never enforced rigorously. Rather, it has been through an evolutionary process over the past 20-30, years we have reached a point at which the great majority of the state's teachers hold degrees. Even at the present time, various substandard certification and waiver procedures make it possible for individuals to acquire teaching jobs without a college degree.

If we are to resolve the crisis of quality which confronts the teaching profession, we will have to stand more firmly behind the college degree as its minimum professional credential. We cannot accept as teachers individuals who, for one reason or another, have been unsuccessful themselves in meeting this minimum academic standard. This is particularly true in view of the fact that colleges and universities have not been rigorous in their selection and preparation of persons to become teachers. A profession which does not adhere to its own minimum standards will not be taken seriously by the public or by its members.

Our major purpose is to attract to teaching a significant number of intellectually capable individuals who will continue to pursue their own intellectual and professional development. Therefore, we must urge institutions of higher education to offer programs which are effective in preparing such individuals. We must begin to identify the intellectually able and cease relying on the courses which candidates take. We must not be predisposed to accept only one kind of program or to exclude automatically graduates of another. As discussed above, there is no defensible basis for doing so.

2. A Test of Knowledge

Candidates for certification in New Jersey should be required to demonstrate that they know the subject matter that they will teach.

Subject matter knowledge is one of the important variables to consider in determining a teacher's potential effectiveness, and it is appropriate to review the candidate's knowledge as part of the certification process. It is also clear that, although all certification candidates will have completed academic programs in their fields, there is a great deal of variability among institutions of higher education with respect to academic quality. For example, the science programs of various colleges differ in their content, faculty qualifications, level of rigor, and in the way in which grades are assigned to students of varying levels of ability and achievement. Conceivably, a "C" earned at one institution could be equivalent to an "A" at another. Total consistency in educating and evaluating college students may not be possible or even desirable, yet professional licensure is a device which is intended to assure individual competence. Therefore, a test of subject matter competence is necessary to identify the level of achievement of each candidate and to neutralize the effect of the variation in quality among institutions of higher learning.

Many professions administer written tests apart from the professional education process as external, objective measures of minimum achievement. The use of a professional certification test assumes only that successful teachers must know the subject matter they will teach. The concept of a teacher certification test also is aligned philosophically with the teaching profession's inherent value of knowledge, its traditional use of knowledge testing as a primary assessment procedure with school students and the State Board's policy of requiring the graduation testing of high school students apart from their local education programs. Therefore, a test of subject matter knowledge for certification is both logically defensible and consistent with existing educational practice.

Presently, thirty-six states are engaged to some degree in teacher testing, and there are nationally standardized tests available which assess knowledge of subject matter.

3. Demonstrated Teaching Ability

Each candidate for licensure should be required to demonstrate teaching ability by completing a full-time internship under the supervision of a qualified expert and in accord with established assessment criteria.

Many professions require internships in one form or another and these experiences measure qualities not assessed on written tests. In addition, they provide the appropriate vehicle for transmitting the applied knowledge and techniques which are related to effective teaching and which undergird the profession.

The teaching profession has relied upon the student teaching experience as the heart of its system for preparing and evaluating prospective teachers. However, while this approach has served us well, it also has been characterized by a great deal of variability both in the qualifications of supervisors and in the methods of observation and evaluation criteria used. Variation exists from college to college and from professor to professor within particular departments of colleges. Such widespread inconsistency is inappropriate for an important element of what ought to be a standardized state certification system. Even more disturbing is that collegiate student teaching programs appear not to have systematically incorporated into their criteria and methods the research findings on teacher effectiveness which have evolved during the past decade.

The internship experience could be incorporated into the preparation program for students committed to a teaching career during college. For those who majored in the liberal arts or any non-education field, it could be provided after graduation by a local district. However, if practica are to be sufficiently effective to be worth requiring, they must be consistent in two major respects:

a. Criteria for Certifying Competence

The internship should both instruct the prospective teacher in the applied knowledge and skills of effective teaching and provide an opportunity to evaluate the candidate's performance for purposes of certification. Therefore, evaluation criteria must be identified by the state, since certification is a state function, and these criteria should be based upon current research on teacher effectiveness. In a major summary of this topic, Shalock (1979) concludes that "...research on teacher effectiveness (Brophy, 1979; Berliner and Tikunoff, 1976; Good and Grouws, 1977; Veldman and Brophy, 1974) has shown clearly that some teachers are more effective than others in achieving desired learning outcomes in children." Although such research has failed to link theoretical study to effective teaching, it has established relationships with the kinds of applied knowledge and ability acquired and assessed in an actual classroom setting. Millman (1982) describes five categories of teacher attributes most often used in attempting to predict whether a candidate will be effective:

1. pre-existing personal characteristics;
2. teacher competence, i.e., the repertoire of knowledge, skills and values which a candidate possesses and might apply in a teaching situation;
3. the way the teacher performs in an "on-the-job" situation;
4. the way students behave under the supervision of the teacher candidate; and
5. pupil outcomes.

Within the research cited, both the ways in which teachers perform in a classroom setting and the ways in which their students behave are "...reliably associated with higher student achievement (Millman, 1982)." Most of the important teacher behaviors are related to the ability to manage the classroom, student conduct and the learning situation. Examples of such meaningful performance criteria provided in summaries of research include teacher time spent in providing direct instruction, assigning and correcting homework and reviewing and drilling lessons; the teacher's intellectual attention to the subject matter - having specific goals, organizing subject matter, attending to prerequisite skills, providing clear instructions; and consistency in giving encouragement and praise (see Millman, 1982).

Therefore, several states which require internship experiences have developed criteria for assessing each candidate's ability to plan and organize instruction, to manage student conduct, to present subject matter systematically, to keep students on the learning task, to evaluate objectively and consistently, etc. Again, these abilities result from the complex integration and application of many types of knowledge from nearly all disciplines refined through experience.

It is not the purpose of this document to provide a comprehensive summary of the research on teacher effectiveness, but rather to highlight the need and validity of developing criteria for assessing each certification candidate's potential teaching ability. The research which undergirds this process is evolving and effective practice and criteria will be refined over time. Initially, even such a systematic approach as that proposed will be imperfect. However, as in the case of subject matter testing, the very initiation of the process itself will provide New Jersey with a means to research further the kinds of knowledge, abilities and characteristics which contribute to successful teaching and therefore will provide us with an opportunity to assume a leadership role in this field.

b. Expertise of Evaluators

The expertise of those who assess candidates for purposes of state certification must also be defined and subject to standards. Whether the evaluator is a college professor or a school district principal or supervisor, he or she must be expert in the skills of systematic observation and evaluation and in the research on teacher effectiveness. Because these individuals act as agents of the state in the certification process, they must be required to conform to state standards and professional development programs should be made available to assist in achieving this goal. Several states which presently have first year internships in place have well developed criteria and procedures for maintaining the competence of internship supervisor-evaluators. Florida's Performance Measurement Teams are composed of district and college personnel whose primary function is to train selected school administrators and teachers to use the state's performance measurement system. Each of 40 team leaders completed a program which "focused on understanding the [research] knowledge base of the system, the use of...observation instruments, conferencing skills, and the delivery of training to administrators and...staff members (Florida Department of Eduation, 1982)."

Initially, the expertise of New Jersey's internship evaluators - whether they are college or school district personnel - will be at least equivalent to that of the present "student teaching supervisor" and "cooperating teacher." However, organizational improvements can be instituted at the outset and a substantial upgrading will be achieved during the first three years of the internship program. This will involve a thorough review of the programs of various other states - such as Florida, Georgia, and Oregon - and the development and refinement of criteria and programs for those in New Jersey who serve the primary role in determining who enters the teaching profession.

A Proposed Structure

Having identified the elements of certification, acquired knowledge, demonstrated skills and abilities, and a sound educational background, it is necessary to propose a structure for incorporating them into the licensing system. The following is proposed:

1. Approved College Internships

The ordinary route to certification will be through the completion of a state-approved internship offered by a college or university. Any student who completes such an internship as part of a baccalaureate or Master's program and who passes the state licensing examination will be certified in the appropriate subject field.

2. Equivalency

There is a need to provide an alternate route to certification for those who possess a degree but who have not completed an internship, and thereby open the doors of the teaching profession to talented persons from all collegiate fields of study. The existing equivalency mechanisms provide access but are weak. Neither the college transcript (course-counting) approach nor the waiver proceedings of the Board of Examiners involves any attempt to determine the actual knowledge or ability of the candidate. Nor do any of these processes provide for the identification of areas of strength or weakness. An equivalency system must be developed which is more reliable and rigorous, yet not arbitrary.

It is recommended that school districts be permitted to hire anyone who holds the Bachelor's degree and who has passed the appropriate state subject matter test. Anyone who holds a degree may take the test of general knowledge for elementary certification. Individuals may sit for the state licensing examination in a particular secondary field if they have completed a college's requirements for a minor in that field or if it is determined by the State Board of Examiners that they possess the equivalent in formal study and/or experience. Upon employment the individual will be issued a one-year provisional certificate and will be placed in a district-operated, on-the-job internship under the supervision of a qualified professional. If the one-year internship is completed successfully, the candidate will be awarded a standard certificate.

It should be noted that there are many instances in the current system in which candidates lacking student teaching are hired provisionally while on-the-job experience is applied to meet the student teaching requirement. Presently, as a matter of policy, New Jersey accepts any form of supervised experience in lieu of student teaching for purposes of certification. For example, if a candidate can demonstrate that his/her work as a substitute or emergency teacher was supervised, then that experience is an acceptable alternative to student teaching. Therefore, districts now provide such practicum experiences for certification, but no structure or standards exist to guide their participation.

The proposed internship approach will formalize district participation so it can be supported and improved. Once an individual has actually been hired, both the district and the candidate will have a specific vested interest in the quality of the internship experience. Our goal is to use all of our best resources to provide these candidates with an excellent training experience.

In addition, that training will take place in an "on-the-job" setting where supervision is directly available on a regular basis. In the case of existing college practica, districts participate out of a general sense of professional responsibility, but they have no other stake in the outcome nor any real role in the licensing process. Although the recently adopted teacher education standards will increase the number of observations made by college supervisors, these individuals will continue to provide only a fraction of the supervision provided by public school staff.

4. Endorsements

Holders of an initial certificate may obtain additional endorsements by passing the knowledge test in the appropriate field.

5. Transcript Evaluation

Since the process is founded upon courses taken, and because a more rigorous equivalency system would be established, there would be no need for a transcript analysis procedure. All candidates, regardless of their academic backgrounds, must demonstrate their knowledge through testing and their ability through an internship. As in other professional fields, there will continue to be credentials reviews for applicants to sit for the state examinations.

6. Emergency Certification

There would be no need for an "emergency certificate" since districts could hire any holder of a baccalaureate degree. However, unlike the current system and consistent with quality, these initially employed teachers would have to demonstrate their knowledge and ability within a relatively short period of time and would then receive a standard certificate. Under the existing emergency certificate, no progress toward standard certification is required.

Reciprocity

The proposed plan is one that will enable New Jersey to maintain its reciprocal agreements with other states. As is true of the present system, those of our teachers who go through approved college programs would be acceptable to reciprocating states while those who are certified through the equivalency route would not. The academic and professional backgrounds of those coming from reciprocating states would be accepted in New Jersey and each such candidate would have to pass the state knowledge exam. Candidates from non-reciprocating states will continue to be reviewed case-by-case.

More important, however, is the need to anticipate the direction in which the nation is headed with respect to certification reciprocity generally. Presently, we have agreements with 28 other states based upon college program approvals. At the same time, as many states are involved in knowledge testing and performance assessment. As one might expect, these states are working together to develop regional and national reciprocal arrangements based on testing. Regional consortia are being organized for the purpose of facilitating state department initiatives in teacher preparation and testing. They can be used to pool resources for test development and validation. There is enough consistency now among neighboring states to implement the proposed policies and test development projects. However, the real benefit of interstate cooperation will not be the resultant agreements on teacher mobility, but rather the long-term improvement of teaching nationally. Research-based certification through knowledge testing and performance observation is a reality and states are involving top teacher effectiveness researchers in the country in this effort and are exchanging information. The Southeastern Regional Council for Education Improvement, an organization of twelve southeastern states has been exploring avenues for regional teacher certification through outcome assessment. Over time these states and others which proceed with them to converge upon a research-based consensus as to the most important characteristics to measure and are likely to evolve licensing systems which are superior to those of states which emphasize process.

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EDUCATION STANDARDS
COMMISSION

TEACHER CERTIFICATION IN FLORIDA

A NEW DIRECTION

October 1984

Reprinted by permission of Richard C. Hollihan,
Executive Director, Florida's Education Standards
Commission.

PROPOSED CERTIFICATION MODEL

PREFACE

The purpose for the certification of educational personnel in the State of Florida is to protect the public interest. The protection of the public interest can be accomplished by establishing that the educator possesses the credentials and skills necessary to function effectively in an educational setting.

The recommendations for the revision of the structure of teacher certification in Florida have been developed by the Education Standards Commission with the assistance of the Office of Teacher Education and Certification in the Department of Education. The revisions of the current structure were developed to improve the efficiency and effectiveness of teacher certification.

Over a period of years, the current certification system has been arbitrarily amended. As a result, the current system is the product of repeated modification. Over time, some certification areas have been updated, and other areas have been unchanged for as long as twenty years. In much the same manner, the number of certification coverages has proliferated to the present 240+ areas of specialization.

As a result of an analysis of the existing areas of certification, the Education Standards Commission concluded that major restructuring of the certification process was necessary. The model for certification recommended by the Education Standards Commission will include 42 certification areas (a difference of over 200 areas).

This reduction in the number of certification areas will facilitate the efficiency and effectiveness of the office of Teacher Certification, and will also be of value to the State in its efforts to develop subject area tests. In addition, these changes will further help to eradicate the perception of "overspecialization" of educational certification requirements.

The Education Standards Commission recognizes the value of three essential conditions for professional certification. These are: the need for pedagogical preparation; subject-matter competence; and the demonstration of an acceptable level of professional performance. These conditions will be maintained in the recommended certification structure.

The current statutes governing teacher certification in

Florida are subject to "sunset" review during 1985. Consequently, the public interest may best be served by a redesign of the certification process rather than by continued modification of the existing system.

I. RECOMMENDED CERTIFICATION CHANGES

The Education Standards Commission recommends that certificates be issued for a five year period of time. However, in an effort to protect the public interest, the following specific recommendations are submitted:

1. The Commission recommends that the present practice of permitting the extension of a certificate for five (5) additional years during the life of an existing certificate should be discountined. This action would eliminate the present practice of "stacking" certificates.

2. The Commission recommends that all educators should have recent training or study in order to improve their professional skills.

3. The Commission recommends that the current practice of granting an additional year of grace to individuals to extend their certificate beyond the expiration date be discontinued.

4. The Commission recommends that a condition for continued certification be the demonstration of acceptable professional performance.

The recommended structure of the certification process as proposed by the Education Standards Commission would provide for Classification(s), Level(s), and Area(s) of certification.

The Classification(s) which will be identified on the certificate would be "Instructional Personnel" and "Administrative." These classifications are defined in Section 228.041(9)(10), Florida Statutes.

The Level(s) of the certificate refer(s) to the instructional/developmental level(s) of the students with whom teachers and other certificated personnel interact. The level(s) of the certificate recommended by the Education Standards Commission are:

Early Childhood - Primary
Middle Childhood
Secondary
Postsecondary

The Areas covered by the certificate refer to the teaching fields in which the individual is qualified to function. The areas of certification recommended by the Education Standards Commission are:

AREAS

1. Administration/Supervision
2. Agriculture
3. Agriculture Occupations
4. Art
5. Athletic Coaching
6. Biological Science
7. Business
8. Business/Office Occupations
9. Communications
10. Computer Science
11. Diversified Occupations
12. Driver Education
13. Educational Media Specialist
14. English
15. Foreign Language
16. General Education (Elementary Education)
17. Gifted
18. Guidance
19. Health
20. Health Occupations
21. Hearing Disabilities
22. Home Economics
23. Home Economics Occupations
24. Industrial Arts
25. Industrial Occupations
26. Marketing/Distributive Occupations
27. Mathematics
28. Mildly Handicapped
29. Moderately Handicapped
30. Music
31. Physical Education
32. Physical Science
33. Physically Impaired
34. Profoundly Handicapped
35. Public Services Occupations
36. Occupational Specialist
37. Reading Specialist
38. Social Science
39. Specialist in School Psychology
40. Speech and Language Impaired
41. Visiting Teacher
42. Visual Disabilities

The responsibilities of the State and school districts to ensure qualified instructional personnel in the schools will not be diminished. The subject-matter background or training necessary for instructional personnel to be placed in specific assignments will be specified in the Course Code Directory. The local district will be responsible for making the specific teaching assignment(s) within each broad area of certification. The district will make its assignments based upon guidelines established in State Board of Education Rule and upon analysis of the educator's training and experience.

II. RECOMMENDATION FOR THE TYPES OF CERTIFICATES TO BE ISSUED BY THE STATE

The Education Standards Commission recommends that the state issue five types of certificates. They are:

1. Temporary-Non-Degree
2. Temporary-Degree
3. Professional
4. Associate Master Teacher (Must be added to a Professional Certificate.)
5. Master Teacher (Must be added to a Professional Certificate.)

Temporary-Non-Degree Certificate: It is recommended that the Temporary-Non-Degree Certificate be valid for two (2) years and be renewable once.

In order for an individual to be eligible, the following conditions must be met:

1. Complete an appropriate application form.

2. Pay the appropriate fees.

3. Document six (6) years of successful work experience and/or the appropriate professional license acquired during the last ten-year period in the field in which certification is sought.

4. Document evidence (within one year of receipt of the temporary certificate) of an acceptable score on an occupational test approved by the state for the field in which certification is sought or successful performance on a state-approved competency examination.

5. Verification of an acceptable score on the CLAST examination or its equivalent.

6. By the conclusion of the second Temporary-Non-Degree Certificate, the individual must demonstrate evidence of receipt of an acceptable score on the professional section of the Florida Teacher Certification examination.

Temporary-Degree Certificate: It is recommended that the Temporary-Degree Certificate be valid for two (2) years and be non-renewable.

In order for an individual to be eligible, the following conditions must be met:

1. Complete an appropriate application form.
2. Pay the appropriate fees.
3. Document successful completion of the appropriate general education knowledge requirements.
4. Document successful completion of an approved teacher preparation program or an acceptable pedagogical component (as defined by State Board of Education Rule).
5. Document successful completion of a bachelor's or higher degree.
6. Document evidence (within one year of the receipt of the temporary certificate) of an acceptable score on an appropriate subject area examination approved by the State.
7. Document evidence (within one year of the receipt of the temporary certificate) of an acceptable score on an appropriate professional examination approved by the State.
8. Persons trained outside the State of Florida must present a score of at least the 40th percentile on a nationally-normed standardized test (to be established by State Board of Education Rule).

Professional Certificate: It is recommended that the Professional Certificate shall be issued for a five year period of time. At no time shall a certificate holder possess a certificate valid for more than five years. In the event that the requirements for certification renewal are not met, the certificate shall expire.

In order to become eligible for a Professional Certificate, the applicant in addition to meeting the requirements necessary for the appropriate temporary certificate, shall:

1. Complete an appropriate application.
2. Pay the appropriate fees.
3. Document successful completion of the Florida Beginning Teacher program.
4. Meet whatever other requirements are established by law or State Board of Education Rule.

The following summary is provided to clarify the relationship between the requirements established for certification and the evidence necessary to ensure that the educator possesses the knowledge and skill required for professional practice.

REQUIREMENTS	EVIDENCE
1. Academic knowledge or occupational expertise	Bachelor's degree or acceptable work experience.
2. General education knowledge	Acceptable score on the Florida CLAST or equivalent.
3. Subject-area knowledge	Acceptable score on an approved subject area examination or an equivalent test approved by the State.
4. Pedagogical knowledge	Acceptable score on the revised Florida professional examination.
5. Professional performance	Acceptable performance in the Florida Beginning Teacher Program and/or acceptable performance on a state-approved performance measurement system.

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PROTEACH: Professional Teacher Preparation At the University of Florida

by David C. Smith, Robert G. Carroll, and Bess Fry

The new five-year teacher education program at the University of Florida requires greater depth of study, more clinical and field work, more coursework in education, and a more comprehensive evaluation of the students.

THE EXPERIMENTAL preservice teacher preparation program at the University of Florida is called PROTEACH – short for professional teacher. This new program, developed over a four-year period, requires greater depth of study in the academic teaching fields, more clinical field work, more coursework in professional education, and a more comprehensive evaluation of both students and the program than the traditional program it replaces.

All of this additional work means that PROTEACH is a five-year program that culminates in initial certification and the awarding of a master's degree. The baccalaureate is no longer the first professional degree in education at the University of Florida, and students will not be recommended for certification upon completion of their bachelor's degrees. In fact, those preparing to be secondary school teachers will receive their bachelor's degrees from the College of Liberal Arts and Sciences. Those preparing to be elementary or special education teachers will continue to receive their bachelor's degrees from the College of Education, but they will not be recommended for certification until they have completed their fifth year of study.

During the past two years the College of Education has received more than 200 requests for information about this new program from schools of education and from teacher educators – and there is little chance that the national concern with teacher education will diminish in the near future. If anything, that concern is likely to intensify.

We will describe here the factors that led the University of Florida to undertake such comprehensive changes in its program of teacher education. We will also describe the process of curriculum development for PROTEACH, and we will outline some of the specific features of PROTEACH that relate to teacher preparation for elementary, secondary, and special education. Finally, we will speculate about the future of teacher education in the U.S.

FACTORS INFLUENCING CHANGE

The College of Education at the University of Florida has a history of innovation in and commitment to preservice teacher preparation. Because of state-level attacks on teacher education, the university administration encouraged the College of Education to consider the possibility of a fundamental redesign of preservice teacher preparation programs. The views expressed by the press, by state legislators, and by professional groups reflected the perception that "business as usual" in teacher education would no longer be satisfactory.

Several other factors combined to make the time ripe for reform. First, the supply of teachers far exceeded the demand. This permitted the College of Education to address questions of quality rather than questions of quantity. Second, there was a growing realization that the knowledge base associated with teaching and learning had expanded and become more complex. Third, it had been about 50 years since the design and scope of preservice teacher preparation programs had been altered in any significant way. Finally, societal expectations regarding what teachers should be and what they should be able to accomplish had increased significantly. Indeed, the tasks that teachers must accomplish today are far more sophisticated than they were a half century ago, and a bachelor's degree no longer represents the pinnacle of educational achievement it once did.

DAVID C. SMITH is president of the American Association of Colleges for Teacher Education and dean of the College of Education at the University of Florida, Gainesville, where ROBERT G. CARROLL is a doctoral candidate and graduate assistant in the office of the dean and BESS FRY is an educational research and evaluation consultant and a doctoral candidate. All are members of the North Central Florida Chapter.

After taking all of these factors into account and reviewing our preservice programs in detail, we concluded that the programs themselves were not fundamentally flawed in design but that they were inadequate in scope. Giving students a broad background in general education, insuring that they have knowledge of the subject matter they will teach, and providing them with appropriate professional skills are still important components of preservice teacher preparation. Today, however, even greater knowledge of subject matter is expected than in the past, and those who enter teaching are expected to have even more sophisticated professional skills.

The development of PROTEACH began in 1977 with a review of the form and functions of the Department of Curriculum and Instruction. In 1980 the actual development of PROTEACH began and – with input from teachers, administrators, university faculty members and students, leaders of the teacher union, and state department of education personnel – continued until May 1984. PROTEACH is being implemented for the first time this fall.

THE PROGRAM

Under PROTEACH, all students at the University of Florida who are preparing to be teachers will earn both bachelor's and master's degrees before they are certified. During the course of their programs, elementary teachers will earn 166 credits, and secondary and special education teachers will earn 160 credits. The College of Liberal Arts and Sciences will award a bachelor's degree in one of the disciplines to every student who wishes to become a secondary teacher, and the College of Education will award a bachelor's degree in education to every student who is training to become an elementary or a special education teacher. However, the five-year program is designed as an integrated sequence of experiences and is not intended to duplicate the four-year degree followed by a typical master's degree in education.

A common core of courses will be required of all students in teacher education. All students will be required to take four hours in social, philosophical, and historical foundations of education; two hours in the mainstreaming of students with handicaps; two hours in educational diagnosis and evaluation; two hours in learning and cognitive processes in education; three hours (including one hour of clinical experience) in human development and education; and a noncredit course in educational media. In addition, students pursuing programs in elementary, early childhood, and special education will be required to take three hours in interpersonal relations/parenting and two hours in instructional computing. (Secondary students will take a course in instructional computing through the College of Liberal Arts and Sciences and a graduate course in instructional computing through the College of Education.)

We must recognize that teacher preparation programs must change. Neither the time allotted to teacher education nor its content is fixed.

Elementary education. The program in elementary education requires that all students take at least one academic specialization outside the College of Education. With the cooperation of faculty members in the various departments of the College of Liberal Arts and Sciences, the College of Education has developed a series of 12-hour specializations appropriate for an elementary teacher who is required to teach a broad range of subjects.

In addition, students majoring in elementary education are required to take another 12-hour specialization either within or outside the College of Education. If this specialization is taken in the College of Liberal Arts and Sciences, it becomes a second teaching field. If it is taken within the College of Education, it becomes an appropriate specialty within education, such as reading or special education. Students desiring to become certified in early childhood education as well as elementary education must use their second specialization for that purpose.

PROTEACH for elementary education students reflects a greater commitment to fieldwork and clinical experience than was possible in the traditional program. An evaluation portfolio, intended to provide a holistic approach to evaluation, will be maintained for each student from the beginning of the program through graduation. The evaluation process is expected to become even more comprehensive as we gain experience with PROTEACH.

Special education. The program in special education leads to certification to teach two of the following groups: the mentally retarded, the learning disabled, the physically handicapped, or the emotionally handicapped. Students in special education are also required to complete a minimum of 18 hours in one appropriate academic specialization outside the College of Education. In addition, the program includes a computerized, individualized evaluation system that monitors the prospective teachers' performance as they work with individual children.

Secondary education. Students majoring in secondary education must first complete bachelor's degrees in the College of Liberal Arts and Sciences. While completing these degrees, they must take a minimum of 13 hours of coursework in education, including the common core courses listed above. Their fifth year of study will consist of an intensive, institute-like experience, with topics introduced in large groups; reemphasized in smaller, subject-specific groups; applied in small-group practica; and refined in teaching teams. The scheduling for these groups is flexible. This novel approach to the preparation of secondary teachers will be tested during the 1984-85 academic year and fully implemented the following year.

THE FUTURE

During the past year or two, a variety of groups, organizations, and individual researchers have delivered an unprecedented series of reports on the condition of American education. While the range of suggested solutions has been wide, the consensus has been that American education simply must function more effectively, because the U.S. must have a better educational system if it is to compete politically and economically with other nations.

A national commission has recently been established to review preservice teacher education in the U.S., and several states have formed similar commissions. We expect the calls for the reform and improvement of teacher education to grow even more strident.

However, these are political reasons for reforming teacher education. Teacher educators are also being called on to undertake reforms because the knowledge base associated with teaching and learning is now more reliable, consistent, and useful than ever before. Much of that knowledge is being transmitted to teachers through inservice training, but it must be included in preservice training as well, if it is to affect the performance of beginning teachers.

We must recognize that teacher preparation programs *must* change. Neither the time allotted to teacher education nor its content is fixed. And we must also recognize that, if teacher educators do not see to the reform of teacher education themselves, external forces will surely do so. ☐

Reprinted with permission of Sandra J. Mayfield and Marlene Ryals White, "Testing for Teacher Certification: Oklahoma's HB 1706." 1984 Revision of ERIC Document #222 347 (1982).

OKLAHOMA'S HB 1706: LEGISLATIVE REFORM THAT WORKS!

by Marlene Ryals White, Ph. D., and Sandra J. Mayfield, Ph. D.

Oklahoma has joined a number of states which are requiring examinations for classroom teachers as one response to increasing public pressure to upgrade teacher education standards. But Oklahoma's House Bill 1706 is much more than a teacher testing law. It represents one of the most comprehensive attempts to improve teacher education, as it addresses not only curriculum content knowledge through examinations, but also classroom teaching competence, salaries, licensure, certification, staff developement, and teacher education faculty development. Written by members of Oklahoma's House Common Education Committee, the twenty-three section bill calls for the establishment of a non-teaching citizens commission on education, as well as a pilot study for a teacher register, along with a job availability list. The intention of HB 1706 authors was "...to ensure that the children of the state are taught by professional educators, fully trained in their areas of expertise." (From HB 1706, Section 10.)

Political rhetoric aside, HB 1706 appears to contain an impressive amount of substance, an ambitious scope of impact, and certainly a revolutionary approach to modifying teacher education. Of particular significance in this bill are the changes in process and in power which the new certification procedure represents. Figure 1 depicts the step-by-step processes required for certification before and after HB 1706.

BEST COPY AVAILABLE

Certification Before HB 1706

1. Completion of approved program
    A. Recommendation of College or University

    or

    B. Out-of-State Certification
2. State Board of Education Approval
3. Certification

Certification After HB 1706

1. Completion of approved program
    A. Recommendation of College or University

    or

    B. Out-of-State Certification
2. EXAM
3. State Board of Education Approval
4. Licensure
5. Successful Completion of Entry-Year
6. Recommendation of Entry-Year Assistance Committee
7. Certification

Figure 1

New steps involved in the certification process include the examination(s), the license, the year of successful teaching, and the recommendation of the Entry-Year Assistance Committee (EYAC). The changes compound the certification process and serve as a checks-and-balances system, or supplement, to the approved program approach to teacher certification.

Prior to HB 1706, the approved program approach meant that graduates of state institutions whose teacher education programs had been approved by the Oklahoma State Department of Education would, upon satisfactory completion of the college program of study and upon receipt of the recommendation of the graduating institution, receive certification to teach. Out-of-state applicants who had graduated from an accredited institution which had been approved as a teacher preparatory institution within their states were eligible for certification if the course work met minimum State Board requirements in Oklahoma. All applicants must have met the recency requirement of having taught three of the past five years or must have completed eight semester hours or a combination of teaching experience in an accredited school and college credit within the five years preceding application for certification. For purposes of recency, one year of teaching experience is equivalent to three semester hours of college credit.

For those whose graduation date is after February 1, 1982, HB 1706 mandates that the prospective teacher pass the curriculum examination(s) prior to licensure. A "grandparent clause" is written into the law which exampts those whose graduation date precedes February of 1982. That exemption applies to currently certified teachers and to all other individuals who completed an approved teacher education program prior to February 1, 1982. These exemptions are thought to make the testing requirement more nearly practicable. Figure 2 shows the centricity of the exams to the certification process.

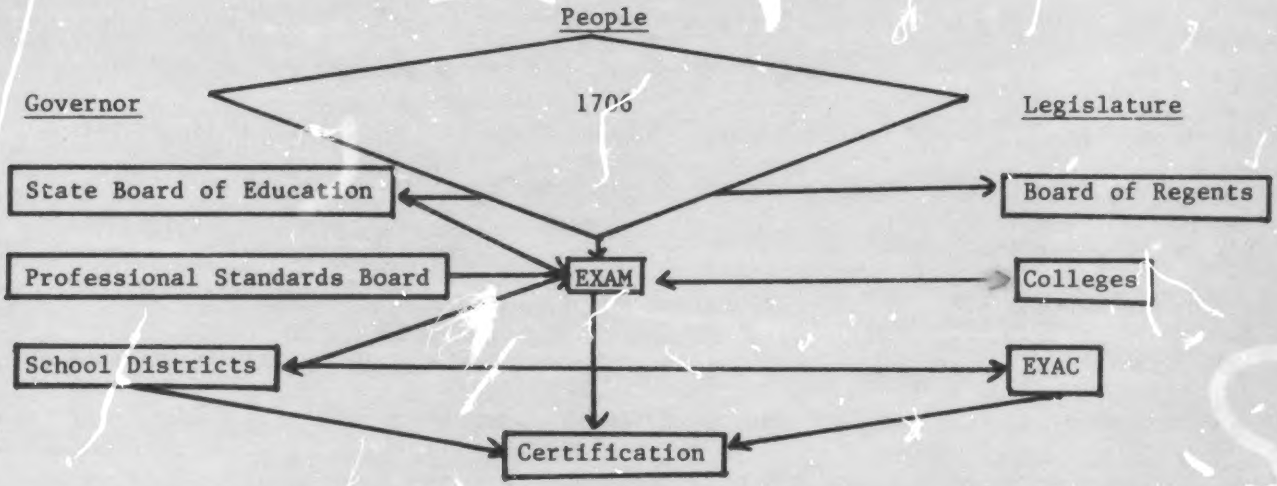
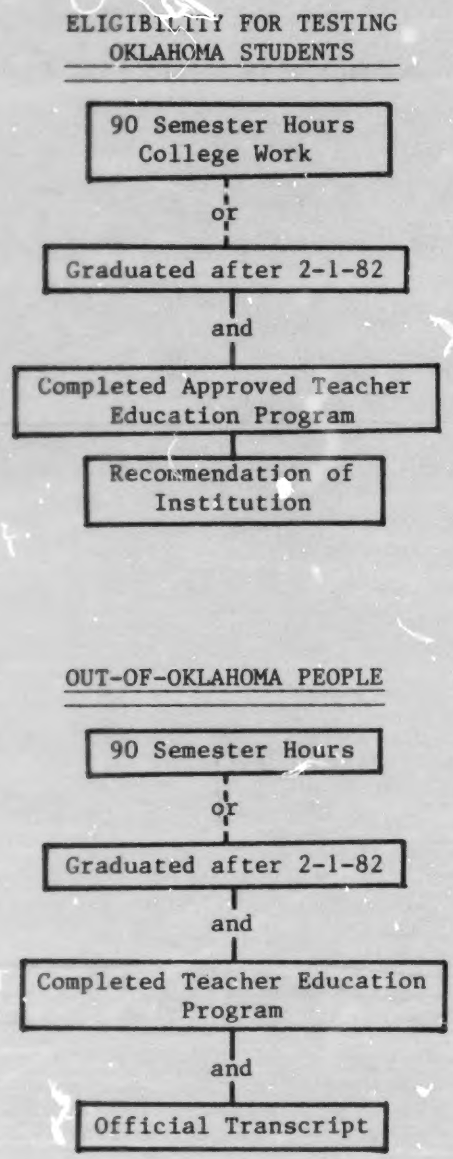

People
Governor
1706
Legislature
State Board of Education
Board of Regents
Professional Standards Board
EXAM
Colleges
School Districts
EYAC
Certification

Figure 2

The license, obtainable after successful completion of both the curriculum exam(s) and an approved teacher education program, entitles the graduate to teach for one year under supervision by an Entry-Year Assistance Committee. The EYAC consists of an experienced classroom teacher whose teaching area or academic training is the same as the entry-year teacher's, one representative from higher education, and one building or school district administrator. Requirements are for the committee to observe the licensed teacher a minimum of three times, and to meet as a committee with the entry-year teacher three times throughout the school year. The Entry-Year Assistance Committee either recommends or fails to recommend the candidate for certification at the final EYAC meeting. A candidate may, upon failure to receive a recommendation for certification, have a second supervised entry-year. In the event that an additional year is required, the license is reissued.

The year of supervised teaching, an additional step in the certification process, represents a shift in responsibility for determining the approval of a teacher for complete certification. This new concept means that an individual's preparation for the teaching profession is reinforced by a body of resourceful educators whose interest is in strengthening the individual's particular skills. It symbolizes a willingness, on the part of the educational establishment, to fortify weak or unsure beginning teachers, and to further strengthen already committed ones. The new concept also means that two members of the local school district share the responsibility of approval for certification with state and with the institutions of higher education.

In terms of the curriculum examinations, seventy-nine (79) separate exams were developed to correspond to certification areas. All tests are multiple-choice, untimed, and contain four choices per item. There are three classifications of tests. General tests are given in certification areas that normally are sole teaching areas, such as elementary education, the foreign languages at the secondary level, and specialty or professional areas, such as reading specialists, administrators, librarians, psychometrists, or speech pathologists. General examinations are comprised of 120 items. Umbrella tests usually pertain to secondary level areas such as language arts, mathematics, social studies, industrial arts, and business education, and contain 100 items. Specific area exams are required under each of the umbrellas and consist of content areas such as grammar and composition, American literature and English literature under the Language Arts umbrella, algebra, geometry, trigonometry, math analysis, and calculus under the Mathematics umbrella, etc. Specific area exams consist of 80 items. Figure 3 is a flow-chart illustrating the eligibility of potential examinees and summarizing the test registration prerequisites. Candidates for licensure may repeat curriculum examinations an unspecified number of times; however, licenses are not normally granted until the candidate has successfully completed curriculum testing.



ELIGIBILITY FOR TESTING
OKLAHOMA STUDENTS

OUT-OF-OKLAHOMA PEOPLE

90 Semester Hours College Work
or
Graduated after 2-1-82
and
Completed Approved Teacher Education Program
Recommendation of Institution
90 Semester Hours
or
Graduated after 2-1-82
and
Completed Teacher Education Program
and
Official Transcript

Figure 3

Some problems have emerged since the implementation of HB 1706, particularly in relation to the testing mandate. For instance, requirements for eligibility to test vary considerably from campus to campus. With twenty teacher training institutions within the state, there needs to be some uniformity of curricula, so that this problem becomes a moot one.

Another common difficulty with the testing program is that, for examinees wishing to obtain either a major assignment (all day teaching in the same content field), or a minor assignment (no more than two hours in a six period teaching day) teaching credential, only one test in a given content field is offered, and the cut score is the same for all examinees. For minor assignment people, this requirement "feels" punitive; for opponents of minor assignments and for majors, the requirement seems reasonable and just.

More mundane problems involve the extreme "lag time" between test registration and administration (six weeks), and still more lag time between the administration and score report time (six weeks); costs of the tests; infrequent offerings (four times per year); locations of the administrations; and scheduling. A private, out-of-state, test development company works with the OSDE in administering the program, and many of the stresses are related to the normal dissonance to be expected in such an arrangement.

As of this date, no applicant for certification has been refused certification as a result of Entry-Year Assistance Committee action; but the second entry-year will not have been completed until the end of the 1984-85 school year. After May, 1985, data may be collected on this phenomenon.

Two years after the implementation of HB 1706, there is evidence that in general, the reform law is working. The number of Temporary (emergency) certificates has declined from 1,316 in 1981-82 to 586 in school year 1983-84. Approximately 10,000 examinees have taken 18,000 curriculum examinations in the three years of the testing program. About 2,200 first year teachers have participated in Entry-Year programs.

The full impact of this legislative reform bill will be realized in the next ten to twenty years, as data from entry-year teachers, teacher education programs, and school districts can be collected, analyzed, and interpreted. The attitude of educators toward the teaching profession, perhaps the most significant index at the present time, is promising. Higher education is more concerned with education in the public schools. Local school districts feel more involved with statewide efforts at reform. Most crucially, young teachers appear to have a genuine sense of pride in their profession.

Oklahoma's HB 1706 is proof that legislative reform can have a dynamic, far-reaching effect on a statewide public school system. It is reform that works! The comprehensive scope of the legislation compels all educators to be involved in the same process of improving the quality of instruction and raising the esteem of the teaching profession.

The Extended Teacher Education Program at the University of Kansas

by Dale P. Scannell

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Can the myriad goals of teacher education be accomplished within the traditional four-year program? Since the late Seventies the University of Kansas has been converting its program to five years — with encouraging results to date.

DURING THE early 1960s, in the wake of the post-Sputnik hysteria, the professional literature in teacher education contained frequent suggestions that teacher education programs be extended to five years. For two reasons, these calls for extended programs had little impact: first, there was little research supporting the value of extended programs; second, K-12 education needed ever-increasing numbers of teachers, and it needed them quickly.

In 1976 the American Association of Colleges for Teacher Education (AACTE) published the report of its Bicentennial Commission, titled *Educating a Profession*. In this document, Robert Howsam and his colleagues challenged teacher education programs to take bold steps to help raise teaching from the ranks of the semiprofessions. Among the steps the Commission recommended was the extension of the teacher education curriculum to 150 hours, thus making it a five-year program. The AACTE took little immediate action on this or any of the other recommendations of its Bicentennial Commission.

Two of the questions we at the University of Kansas are asked most frequently

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are why we decided to begin our extended teacher education program and how we went about it. The simple answer to the first question is that, after a period of self-study, we concluded that we could not accomplish all the goals of teacher education within a traditional four-year program. But the actual process of arriving at this conclusion and developing a five-year program was anything but simple.

During the 1970s a number of changes that had serious implications for teacher education were taking place in the public schools – indeed, in the entire nation. Rather than react to these developments in piecemeal fashion, we embarked on a formal review of the characteristics and purposes of the School of Education at the University of Kansas.

After our peak undergraduate enrollment in 1973, the number of students enrolled in various teacher education programs dropped precipitously. This drop was at least partly the result of the well-publicized lack of teaching positions for new graduates. From a high of more than 1,900 students, our enrollment dipped to a low of about 900 students and then stabilized somewhere in the neighborhood of 1,000 junior and senior teacher education majors.

During this same period, continuing professional development – always a major part of our program – expanded rapidly, as the rate of turnover in the public schools also dropped. At the same time, teachers became more resistant to traveling to our campus for classes, and they asked that courses be offered in their own districts.

Other changes took place, too. Federal support for research, development, and training programs eroded; the knowledge base for teacher education expanded rapidly; and a change in university policy placed greater emphasis on scholarly productivity.

The passage of the Education for All Handicapped Children Act (P.L. 94-142) also affected the activities of the School of Education. As part of the process of modifying courses and programs to provide prospective classroom teachers with the skills to work with exceptional children in the regular classroom, the faculty of the School of Education reviewed the teacher education curriculum and enacted changes to take account of the mainstreaming movement. The faculty members studied individual courses in an effort to eliminate redundancy, and they added special education content to those courses judged to be most appropriate. By the end of this program review we were forced to conclude that we could not accomplish all that we wanted within the confines of our four-year program.

In an attempt to define a role for the School of Education that would be consistent with the purposes and environment of the University of Kansas, the faculty considered various options and finally accepted three primary activities as central to the mission of the School of Education. First, research and graduate study were deemed an essential part of our mission – one requiring a major commitment of faculty time and resources. So steps were taken to improve standards for quality control of admissions, retentions, and graduations. Second, the need for continuing professional development among school practitioners was judged to be an important part of our mission. Therefore, we agreed that a certain portion of the effort of the School of Education should be reserved for courses in off-campus settings, to be offered in nontraditional ways. Third, we concluded that we should emphasize a high-quality, innovative approach to preservice teacher education. Large numbers of graduates would not be deemed as important as quality and experimentation.

IN THE FALL of 1979 a committee of faculty members representing all departments in the School of Education was charged with producing a concept paper that would include an analysis of what was known about good teaching and a set of goals and objectives that our program should try to accomplish. In December of that year the School of Education adopted that concept paper, which included 54 objectives that operationally defined nine major goals for the program.

Research and graduate study were deemed an essential part of our mission, as was continuing professional development for practitioners.

The committee members had been instructed to ignore the constraints of time and/or cost in developing their ideas. They were asked only to describe a rationale and a program adequate to prepare effective beginning teachers. Although no courses or credit hours were associated with the goals and objectives, many of us quickly realized that these goals could not be met adequately in a four-year program.

For many years, the School of Education has enjoyed the support of an advisory group made up of 10 district superintendents, 10 local teacher union presidents, and representatives of the state department of education, the Kansas affiliate of the National Education Association, the state school boards association, and the state board of education. Each member of this advisory committee was given a copy of the concept paper and was invited to meet with us in January

All teachers need breadth and depth in the subjects they will teach, including an understanding of how new knowledge is produced in their fields.

1980 to discuss the implications of the paper.

At that meeting, the head of the committee that wrote the paper made a presentation to the advisory group and answered questions. Then we asked for the reactions of the members of the advisory committee – especially whether graduates of such a program would be attractive to school districts and whether teachers and administrators would work with us in developing a program to accomplish the goals and objectives outlined in the concept paper.

The response of the advisory group was more enthusiastic than we had expected. Superintendents said that they would hire graduates of the proposed program before graduates of other programs. Teacher leaders applauded the nature of the program, especially the opportunities for students to participate in K-12 classrooms throughout the program. Several superintendents volunteered to modify salary schedules, so that graduates of the program could begin at salaries higher than graduates of traditional four-year programs. Members of the advisory committee said that they were most willing to work with the School of Education in developing such a program.

DURING THE SPRING of 1980 five committees worked on the development of the new program. The first three worked concurrently on refining the goals and objectives for elementary, middle, and secondary school programs. During the latter half of the semester, working from documents prepared by the first three committees, the fourth committee developed the general education requirements, and the fifth worked on the field experiences. During the summer of 1980 the heads of the five committees prepared a single report drawing on the recommendations of all five committees. Near the close of the summer, the School of Education adopted the curriculum framework recommended in this final report.

Still more work was required during the 1980-81 academic year, and a final vote on a program – specifying courses, credit hours, and sequences -- was taken in March 1981. The School of Education then announced publicly that, beginning in the fall of 1981, all students entering the university who subsequently entered the School of Education would have to meet the requirements of the new program. Furthermore, we planned to phase out the four-year program at the end of the 1983-84 academic year.

Throughout the development process, we kept the university administration informed about our plans. Partly because the changes we proposed were motivated by a concern for improving the quality of teacher education at the university and partly because our advisory board supported us so strongly, the university administration endorsed and applauded our efforts.

After we made our final decision, still more groups had to be informed. We contacted every community college in Kansas and described how the program would work and how we would work individually with junior-level transfer students. We also spoke to the state board of education and to the Legislative Educational Planning Committee. Some members of these groups questioned our motives for such dramatic changes but generally supported the innovations we proposed. We also presented information about our new program to the Kansas Board of Regents, which (though some members expressed reservations) acknowledged the university's right to establish the requirements for its programs.

OUR NEW program of teacher education is not merely the sum of a series of small, unrelated changes. Nor is it merely an additional year tacked on to the traditional four-year program. Rather, the new program makes optimal use of the five years needed to complete it, and it reflects what we believe to be the most important parts of preservice teacher education.

All teachers are role models for the children with whom they work, and they must be able to relate their own subject matter to other academic disciplines. Thus a teacher education program must be built on a solid foundation in the liberal arts or general education.

The general education requirement in our new teacher education program is a minimum of 60 hours distributed across language arts, the humanities, the behavioral sciences, the social sciences, the natural sciences, and mathematics. These requirements occupy the major part of lower-division coursework.

All teachers need breadth and depth in the subjects they will teach, including an understanding of how new knowledge is generated in their fields. Thus the requirements in a teaching field in a teacher education program must provide an opportunity for students to study intensively in the subjects they will teach.

The teaching field requirement includes a minimum of 40 semester hours, which can be in the form of one teaching major or two teaching minors. We encourage secondary education majors to complete at least a major and a minor; with careful planning, secondary majors can complete two teaching majors. Elementary education students must meet the same 40-hour requirement, but we encourage them to complete work in two teaching fields. The majors require about the same amount of work as a major in the College of Liberal Arts and Sciences. Coursework in the teaching field is to be completed during the junior and senior years.

All teachers need to know the characteristics of effective teaching, and they need to develop a repertoire of skills to use in planning and providing instruction. Thus the professional component of a teacher education program must reflect both developments in research and the conventional wisdom of successful teachers. Students must be given ample clinical opportunities in order to test theories and to experience how theory is applied.

The professional education component of the program includes two kinds of work: the first covers generic teaching skills and is required of all teacher education students; the second is specific to subject matter and teaching level. The coursework and the related field experiences (which begin early and continue throughout the program) are designed to bring students gradually into the teaching profession.

There are four major themes in the professional component of our new teacher education program: 1) growth and development of children; 2) interpersonal communication and self-concept; 3) research, measurement, and technology; and 4) field experience. Most students take their first professional education course during the freshman year; it deals with career awareness and focuses on the role of the teacher. As sophomores, students normally take courses in multicultural education and techniques of child study. In all, five semester hours of professional education coursework are assigned to the lower division.

Slightly less than half of the coursework at the junior and senior levels is in pedagogy. At the end of the senior year, students should have earned approximately 132 semester hours. At that point they are granted a bachelor's degree. Full admission to the fifth year requires a grade-point average of 3.0; probationary admission requires a grade-point average of 2.75. Although we anticipate that careful advising will minimize the number of students who complete the fourth year with a record that will not allow them to proceed to the fifth year, there will certainly be some. To them, as well as to students who decide during their upper-division coursework that teaching is not for them, we will award a bachelor's degree that recognizes the fact that they have completed a program of studies not unlike that of someone who has majored in the College of Liberal Arts and Sciences. But they will not be recommended for certification.

The fifth year of the program is entirely professional. It is divided into three parts: student teaching during the first half of the fall semester; a second assignment in the schools (a practicum) during the final two-thirds of the second semester; and a period of graduate-level coursework sandwiched in between. By dividing the classroom experiences, we hope to give students the opportunity to experience both the opening of school in the fall and the closing of school in the spring. In addition, the student teaching provides a background that should make the graduate study in the middle of the year more relevant. Finally, the practicum gives students an opportunity to build on their experiences in student teaching and graduate study. For most students, the fall and spring assignments will be in different settings and under the supervision of different cooperating teachers. At the end of the fifth year, students will be recommended for certification, and they will have between 15 and 25 hours of credit to apply toward a graduate degree.

THE FIRST CLASS of students admitted under the new program is in its fourth year during 1984-85. We can report some interesting, though tentative, trends on the basis of what we have observed so far.

First, enrollment in the new program has been encouraging. We estimate that the first class to graduate from the program will be approximately the same size as the last class to graduate from the now defunct four-year program. Because the program is longer and because one of its aims is to help students make informed decisions earlier about staying in teacher education, we anticipated more attrition.

Second, tentative data on the quality of the student body suggest that students in the new program are better qualified academically — as measured by grade-point average and by American College Testing (ACT) Program composite scores — than their counterparts in the four-year program were. Although we would still be pleased to see a dramatic increase in the number of students in the program whose ACT scores are in the top 5%, societal factors beyond the control of teacher education must be addressed before very many students of the highest caliber will choose to enter *any* teacher education program.

> **The coursework and the related field experiences are designed to bring students gradually into the teaching profession.**

It is still too early to say exactly how much more the new program will cost. Since we made a deliberate effort to emphasize the quality rather than the quantity of teachers prepared, increased costs were to be expected. The new program requires more involvement of senior faculty members than was true of the former program. Smaller class sizes have also driven up costs. However, the fifth year will replace to a very large extent the master's degree work that former graduates used to take after they were employed, and enrollments in the graduate-level courses in the new program will probably be larger than enrollments in similar courses in the past. Thus the cost for these new courses will be somewhat lower.

Before closing, I must mention two observations on the negative side. First, it should come as no surprise to readers familiar with higher education that abstract changes are much easier to make than those that are very specific. For example, very little faculty opposition to the new program emerged from the early planning sessions. However, when the decisions began to infringe on established territories, when courses were to be deleted or modified, the resistance to change stiffened. Second, some faculty members are extremely reluctant to change anything at all. Fortunately, these faculty members are in the minority.

The future success of the program depends on the continuing care that the faculty members give it. If students encounter duplication of content and redundancy, the program will fail; if students are treated as necessary nuisances, the program will fail. On the other hand, if the content of the program is tightly sequenced and if faculty members engage in mentoring relationships with students, the program will succeed. Other fifth-year programs, especially those at Austin College and at the University of New Hampshire, have succeeded. The fifth-year program at the University of Kansas will also succeed if it can produce highly qualified teachers. ☐

SREB

Alternative Certification for Teachers: 1984 State Actions

September 1984

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Finding adequately prepared teachers for mathematics, science, and foreign language high school classrooms is a problem that may be getting worse, at least for the immediate future. As college admission standards and high school graduation requirements for all students are raised, enrollments in these subjects are growing. For example, in Oklahoma, enrollments in high school foreign language courses have increased 70 percent over a 3-year period. In Florida, the Pinellas County Schools are enrolling twice as many high school students in foreign language courses this fall as last year. Six SREB states are now offering advanced or honors diplomas which require two or three years each of science and mathematics and two years of foreign language.

The National Science Teachers' Association reports that 30 percent of the science teachers in the nation are not adequately trained in the subject matter they teach. On the supply side, the dwindling enrollments in the colleges of education and the number of teachers leaving the classroom continue to forecast serious problems. Colleges and universities in the SREB region reported only 247 graduates in mathematics education and 237 graduates in science education in 1982—this compared to 5,836 graduates with a degree in physical education. These figures do not include persons who major in the subject areas and take the necessary certification hours in education or those who major in secondary education, however, these numbers are relatively small. While several institutions report slight increases in teacher education enrollments, the effect on the overall supply is yet to be determined.

States are approaching the problems from several directions.

* Scholarships or loans to college students preparing to teach in shortage areas are available in many states. Students repay the loans, which often cover all tuition, fees, and related costs, by teaching in the public schools of the state from which they received their loans.
* Teacher salaries have been raised by 10 percent or more this year in more than half of the SREB states. Salary goals are being set by states, such as reaching the top one-fourth in the nation or meeting national or regional averages.
* Almost one-fourth of states across the nation are implementing or are in the planning stages of incentive plans for teachers (such as career ladders or master teacher positions). Teachers are paid additional money for high performance in the classroom, for extended contracts, or for duties that are additional to classroom teaching.
* Statewide programs to retrain teachers and upgrade the skills of science and mathematics teachers have been funded in North Carolina, Florida, Virginia, South Carolina, Maryland, and Alabama.

The magnitude of the problem and the range of efforts to deal with it are dramatically illustrated in Georgia, where a limited number of mathematics and science teachers have been recruited from West Germany to fill teaching positions in the state.

The pool of prospective teachers is also being increased through alternative certification routes, in which liberal arts graduates can become certified without completing a teacher education program. Almost all states have used emergency certification to fill shortages in times of need. However, a major feature of the new alternative certification programs is that they provide a means for persons entering the classroom to acquire necessary competencies for teaching.

Virginia has been certifying around 10 percent of their secondary teachers with a plan that allows teachers to complete nine hours of education courses or to meet competencies, such as classroom management, through locally-designed programs.

The state of New Jersey recently approved a program that permits persons with liberal arts degrees and a 30-hour major to complete a locally designed program to meet competencies in areas of student assessment, learning theory, curriculum, child development, and the school as a social organization. California allows persons without the necessary teacher education course background to be hired and work with a "mentor teacher" during the first year of employment. All of these plans call for the prospective teachers to pass the certification tests required for graduates of the teacher education programs.

In the SREB states, legislative action during 1984 in five states addressed the question of alternative certification routes for prospective teachers. Following are the actions in the five states:

Alabama Regular Session, 1984, House Bill 670

Local school boards are authorized, according to rules established by the state board of education, to employ provisionally certified persons from business, industry or other areas, or military retirees who have extensive preparation in mathematics, science, computer science and other critical needs areas for a period not to exceed one year, with a limit of three years for total employment. These persons must have a bachelor's degree in the subject area, and be evaluated regularly. These teachers are to be used only if no regularly certified teachers are available and shall be considered an emergency method of acquiring teachers--not a permanent means.

Florida "Omnibus" Education Act of 1984

The act authorizes the establishment of experimental alternate certification programs for prospective secondary school teachers. The intent of the program is to attract arts and sciences majors into public school teaching. Program requirements include a 2.75 overall grade point average, a bachelor's degree in the intended teaching content area from an accredited institution, passage of the certification exam, and completion of a modified beginning teacher program. The Department of Education is to conduct a comprehensive review of the alternate program after five years, which shall include a teaching effectiveness comparison between arts and sciences and college of education graduates.

Kentucky General Assembly, 1984, Senate Bill 230

The bill requires the State Board of Education, by September 1, 1984, to establish regulations governing the qualifications and utilization of learned and experienced individuals with training and experience in areas of critical teacher shortage; requires certification of such persons as adjunct instructors, and directs their employment only when a regularly certified teacher is not available; permits annual contracts only to such persons, and denies them eligibility for tenure or teachers' retirement benefits.

South Carolina Education Improvement Act of 1984

Persons with bachelor's degrees in areas of critical need who have subject matter expertise and can demonstrate competency in teaching will be certified without having to meet all the regular requirements for certification. The program will be assessed after three years.

Education Reform Bill of the 68th Texas Legislature, 1984

The bill has two provisions directed to teacher shortages.

Alternative Certification: This provision will permit the "alternative" teacher certification of college graduates who have not completed a teacher education program. However, these candidates will have to pass a competency test, serve a one-year internship, and take teaching method training prescribed by the board, and an appropriate number of semester hours credit from an institution of higher education in the area the person is to be teaching. A person certified under this plan shall be exempted from any portions of required examinations that test knowledge of pedagogical methods, history of education, or child psychology.

Technology Education Programs in the Schools: Local districts are authorized to establish programs to cooperate with the business community and governmental and educational institutions to recruit persons to provide secondary students with training and skills essential to the technology age. Districts may employ qualified, but noncertified, persons to teach mathematics, science, computer science, and related technological subjects. A complete program is to be developed by a district and must be approved by the Commissioner of Education. To be eligible to teach as a noncertified instructor, the person must hold a bachelor's degree, with a concentration in the subject to be taught. These persons may not teach more than three classes per day, and are not eligible for benefits available to regular teachers. Implementation of the program may not result in the displacement of any certified person qualified to teach such courses.

Testing

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A CARNEGIE FOUNDATION TECHNICAL REPORT

The Condition of Teaching

A STATE BY STATE ANALYSIS

C. EMILY FEISTRITZER

WITH A FOREWORD BY

ERNEST L. BOYER

THE CARNEGIE FOUNDATION FOR THE
ADVANCEMENT OF TEACHING

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CHAPTER VI

Teacher Education and Certification

Professional standards that apply to teacher education programs and the rules and regulations that govern certification decisions determine in large part the quality of beginning teachers in the United States. The quality of this teaching force clearly has been declining.

Teacher Testing

A recent movement to develop and use tests as some part of the certification and/or teacher education process will have a major impact on the quality of America's teaching force. In 1970, 21 states reported some use of proficiency examinations in the certification process. Several states reported use of the Modern Language Association (MLA) Examination for language teachers and/or as a substitute for required courses. The National Teacher Examination (NTE) used in some states was criticized in several cities, and at least one state has declared a moratorium on its use.[41]

In 1983, however, states are moving to institute tests at such a rapid rate that it is almost impossible to report the data before another state has decided to require a test as part of the certification requirements. These tests are taking several forms. Eight states are now testing the prospective teacher's basic skills as a prerequisite for entering the teacher education program—Alabama, Arizona, California, Colorado, Kansas, Missouri, New Mexico, and South Carolina. These states are either developing their own basic skills tests or are using the Educational

TABLE 55. Competency tests required for prospective teachers by State: 1983

State	Certification Test Required	Type	Some Type of Test Under Consideration	
			Yes	No
Alabama	X	Basic Skills, certification		
Alaska				X
Arizona	X	Basic Skills	X	
Arkansas	X	NTE		
California	X	Basic Skills, Professional Knowledge		
Colorado	X	Basic Skills		
Connecticut			X	
Delaware	X	NTE		
Florida	X	Certification, Performance		
Georgia	X	Content, Performance		
Hawaii				X
Idaho				X
Illinois				X
Indiana				X
Iowa				X
Kansas	X	Basic Skills		
Kentucky			X	
Louisiana	X	NTE		
Maine				X
Maryland			X	
Massachusetts				X
Michigan				X
Minnesota				X
Mississippi	X	NTE		
Missouri	X	Basic Skills		
Montana				X
Nebraska				X
Nevada			X	
New Hampshire				X
New Jersey				X
New Mexico	X	Basic Skills		
New York			X	
North Carolina	X	NTE or GRE		
North Dakota				X
Ohio				X
Oklahoma	X	Certification, Performance		
Oregon			X	
Pennsylvania				X
Rhode Island				X
South Carolina	X	Basic Skills, Content, Performance		
South Dakota				X
Tennessee	X	NTE		
Texas			X	
Utah			X	
Vermont				X
Virginia	X	NTE	X	
Washington				X
West Virginia			X	
Wisconsin				X
Wyoming				X
Totals	18		11	23

SOURCE: Compiled by Feistritzer Publications, Washington, D.C.

Testing Service (ETS) PreProfessional Skills Test of Reading, Writing and Mathematics (Table 55).

Many states are now also requiring teachers to achieve a passing score on a content area test. Georgia, for example, requires teachers to pass a criterion-referenced test in their teaching fields, e.g., English, biology, elementary education.

Pedagogical examinations are also being required in some states. Florida had developed its own examination which includes a section on pedagogy. Also, the National Teachers Examination has been revised and a new Core Battery went into effect in 1982. That test consists of: 1) the Test of Communication Skills—reading, writing (including a sample), and listening; 2) the Test of General Knowledge—literature and fine arts, mathematics, science, and social studies; and 3) the Test of Professional Knowledge. It is very possible that as the Core Battery becomes better known it will be widely adopted. Validation studies are now underway in several states.

Some states are now assessing the performance of beginning teachers as part of the certification or contract renewal process. Three states—Georgia, Oklahoma, and Florida—are presently using performance tests for certification purposes. Two other states, South Carolina and Arizona, field tested performance instruments during 1982-83. In addition, Virginia, Connecticut, and Kentucky are actively moving towards the development and use of performance tests. Presently 18 states are using tests for certification purposes, and 11 are considering their own. Only 23 states indicated no interest. The total is more than 50 because some states that are already using tests are also considering the development and use of another test.

The development and use of tests is already having a impact upon the qualifications of those persons wishing to become teachers, particularly upon minority populations. Several years ago, Florida established a minimum score on the Scholastic Aptitude Test (SAT) and/or the American College Test (ACT) for the admittance of students to a teacher education program. The scores 835 and 17 respectively represent a minimum score at the 40th percentile. This has resulted in an overall reduction of 25 percent in the number of students entering teacher education programs and a reduction of approximately 90 percent in the number of minority candidates. The mean SAT score for students indicating that they wish to become teachers in 1982 was 813 twenty-two points below the minimum score to be admitted to a Florida teacher education program.

Florida has instituted another program that should have an impact upon the quality of the teaching force. According to legislation, any college or university must have at least 80 percent of its teacher education students pass the Florida Certification Examination or it will lose its approved program status. The results from the first year of this testing program have now been analyzed. Fifteen percent of the approved programs in Florida will be discontinued in 1983-84 because of the test scores of prospective teachers.

When Georgia instituted its content examinations, the highest passing rate (92 percent) was achieved by students who had majored in early childhood education programs. Since the test only included items that a teacher would be expected to know and teach to students up to the third grade, the data could be interpreted to mean that 8 percent of the graduating seniors in early childhood education programs were unable to pass an examination that covered content no more demanding than the content expected of a third grader.

These examples support the proposition that many of the lowest achieving students will be eliminated from competing for teaching positions. The testing movement now underway appears to have the potential for improving the quality of America's teaching force if only by raising the standard for the lowest acceptable candidates.

But these testing programs are not without problems. The most important impact clearly will be on minority populations. Already several projects are underway to improve the scores of minority candidates.

Liberal Arts Graduates

Another developing state policy may have an immediate impact on the teaching population. Several states have instituted policies allowing liberal arts graduates to begin teaching careers without any teacher preparation courses. While these people will be required to meet the state standards following their employment, they will be completing their first year of teaching without any formal preparation for these responsibilities. Advocates of this policy assume that certification policies have prevented qualified candidates from entering teaching careers. They also believe that teaching shortages in some areas such as math and science will be reduced if certification requirements are eliminated. It is too early to determine whether these policies will have the intented impact, but they do raise several related issues. If persons who have had no preparation as teachers are successful, will policy makers conclude that formal preparation programs are not needed, leading to the reduction or elimination of formal teacher education programs and possibly even state certification offices?

Output Standards

Tied to the development of teacher tests is a shift to "output standards for teacher education programs." During its last two national meetings, the National Association of State Directors of Teacher Education and Certification has discussed the development and use of output standards. Such an approach would place a greater emphasis on examining the graduates of the teacher education programs and less emphasis on examining the context and content of the program. In Florida and in Michigan new standards are being considered which place a greater emphasis on output measures.

The Florida program now being discussed would operate as follows: "The standard for approval of a teacher education program in Florida would be the successful completion of Florida's Beginning Teacher Program by 100 percent of the program's graduates." The Florida Beginning Teacher Program requires each school district to assist and assess the performance of the beginning teacher in relation to the 24 required Florida competencies.

An approved program will be discontinued when it is "determined through the review process that the performance of graduates is directly related to significant inadequacies in the teacher education program."[42]

The development of output standards will be based largely upon test data now being collected on graduates of approved programs. The development and use of tests as an essential part of the process used to certify teachers is clearly the most important development in the past thirteen years in the procedures used to certify teachers.

NOTES

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41. T. M. Stinnet, A Manual on Certification Requirement for School Personnel in the United States (Washington: National Education Association, 1970), p. 27.

42. Task Force on Approved Programs, Florida Association of Colleges for Teacher Education, "Quality Performance-Based Program Approval, A New Approach to Approved Programs for Educational Personnel in Florida" (Draft), pp. 3, 4.

Reprinted by permission of the Northeast Regional Exchange, Inc. Andrews, Theodore E., "Testing," *Current Issues in Teacher Education: From a State Perspective*, pp. 61-69, Chelmsford, MA, December 1982.

CURRENT ISSUES IN TEACHER EDUCATION:

From A State Perspective

Prepared for the

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By

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Testing

Many states are now moving to develop and use tests as some part of their certification or licensure systems. A recent national survey completed by the Council of Chief State School Officers reported that 20 states are moving to or already using tests.[1]

States are developing or using tests for three purposes:

1. To screen candidates for basic skills mastery.
2. To test a candidate's knowledge of content in that individual's certification field.
3. To assess teaching performance on-the-job.

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[1] Council of Chief State School Officers, unpublished manuscript, September, 1982.

Generally states are either developing their own criterion-referenced tests or using the Educational Testing Service developed NTE examinations, a new battery which will go into use this year.

A number of issues relate to the development and use of tests:*

1. Criterion-referenced or norm-referenced tests.

> Any state seeking to implement a teacher certification testing program must, at the outset, make a choice between criterion- or norm-referenced tests.
>
> National Evaluation Systems(NES)

NES is correct. A state must choose between a norm-referenced or criterion-referenced test. Which to use is the first and most important testing decision a state needs to make. The issues related to cost, legal implications, validity, reliability, and proficiency scores all vary depending upon which test is chosen. Simply stated, "norm-referencing is used to interpret a score of a person by comparing it with those of others,"[2] while "criterion-referencing is used to interpret a person's performance by comparing it to some specified behavioral criterion."[3]

Most persons who have considered this question recommend using a criterion-referenced test for mastery/certification purposes. Perhaps the strongest argument for a criterion-referenced test is the nature of the norm-referenced test. A norm-referenced test rank orders all persons who take the test and reports data by comparing one person's score to the percentage of people taking the test who scored higher or lower.

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*The issues discussed in this section are based upon a study prepared by the author on Basic Skill Mastery for the West Virginia State Department of Education.

[2] William H. Mehrens and Irvin J. Lehman, Standardized Tests in Education 3rd Edition, (New York: Holt, Rinehart, & Winston), p. 27.

[3] Ibid.

A state test for certification purposes is based on an assumption that certain skills or knowledges are essential and that the test is designed to discriminate between those who have demonstrated the skill or knowledge and those who have not.

Considering issues related to validity, reliability, and cut-scores also illustrates the differences between norm-referenced and criterion-referenced tests.

2. Validity - Reliability

A number of authors have dealt with the issues of validity and reliability. This report draws largely on the work of Mehrens and Lehman[4] for the following discussion.

> The degree of validity is the single most important aspect of a test. Validity is sometimes defined as truthfulness: Does the test measure what it purports to measure? For a test to be valid, or truthful, it must first be reliable. If we cannot get a bathroom scale even to give us a consistent weight measure, we certainly cannot expect it to be accurate. Note, however, that a measure might be consistent (reliable) but not accurate (valid). A scale may record weights as two pounds too heavy each time. In other words, reliability is a necessary but not a sufficient condition for validity. (Neither validity nor reliability is an either/or dichotomy; there are degrees of each.)

A test then has many validities, each dependent upon the specific purposes for which the test is used. Eventually the validity of any test is dependent upon how it is used in the local situation; therefore educators and personnel directors should, where feasible, conduct their own validity studies.

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[4] *Ibid.*, pp. 42-83.

3. Proficiency Levels

Establishing proficiency levels, or passing scores, or standards, or mastery levels, or cut-off points, is one of the most important aspects of any basic skills mastery program and everyone should understand that there is no objective way to establish proficiency levels. There are only subjective ways. The best approach is the one that is most defensible. The two main types of judgments that can be used to set test performance standards are (1) judgments about the questions in the test; and (2) judgments about the mastery status of a sample of students taking the test.

Any state that establishes a testing program will likely have fewer candidates--the very purpose of a testing program is to assure minimum competency and this requires the setting of standards and elimination of some candidates. The question that a state must consider is "how many?"

Florida has reported a 25-percent decline overall and a 92-percent decline among minority students since instituting a basic skills requirement of 835 on the SAT, a score representing the 40th percentile. W. Timothy Weaver in an analysis of "The Talent Pool in Teacher Education"[5] reports that the average education major's combined scores on the SAT, ACT, and the National Longitudinal Study fall between the lower third and the 40th percentile for all students entering college. If a state were to set the proficiency level at the 40th percentile, as Florida has done, that would mean that more than half of the prospective teachers (the 40th percentile is the mean for all prospective college students) would be eliminated nationally; the percentage would vary from state to state.

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[5] *Journal of Teacher Education*, (May-June 1981), pp. 32-35.

Weaver's data on the SAT shows a continuing decline for the mean scores for prospective teachers on the SAT verbal or SAT mathematics.

	1976	1977	1978	1979	1980
SATV	405	400	396	392	389
SATM	431	426	422	420	418

Data for 1981 released by the Admissions Testing Program of the College Board indicates the decline may be stabilizing or even reversing itself:[6]

SATV - 391

SATM - 418

In the light of these statistics (and a criterion-referenced test will create similar issues), a state must consider, at least, the following questions in establishing any proficiency level:

a. What will be the impact on the supply of prospective teachers if "x" standard is established?

b. What will be the impact on the collegiate programs for the preparation of teachers if "x" standard is established?

4. Impact on Minority Students

Educators cannot escape the fact that almost any screening approach (state tests, SAT scores, NTE examinations) will have a disproportionate impact on minorities. It is possible to discuss the problem of why academically talented minority students are not choosing to enroll in teacher preparation programs, but that is not the issue here. The issue is that the systems states are developing will clearly eliminate many minority persons from competing for teaching positions.

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[6] "National College-Board Seniors, 1981."

It may be important to emphasize that screening tests were developed in order to encourage equal opportunities for all citizens and that efforts to eliminate the use of tests for teachers would not in the long run support efforts of minorities who wish equal access to opportunities in America's society. Politically arbitrary alternatives may be even more unfair.

> Historically, testing arose out of the desire to break down arbitrary barriers of class, race, and nationality; it was part of the democratization of society at the turn of the century. Better than any other instrument available to teachers, then or now, tests would cut through the unpredictable circumstances of a child's cultural background to the relatively stable aptitudes on which education builds. The early testers believed that tests would open doors to disadvantaged people, not close them. And that, by and large, is what tests have done, enabling millions of people from poor or deprived backgrounds to develop their abilities better than the circumstances of birth would otherwise have allowed. As tests disappear, displaced by political requirements imposed on school and workplace, arbitrary barriers return; these barriers are new ones, perhaps, but no less unproductive and unjust.[7]

5. Legal Concerns

No state wishes to establish a testing procedure which will be open to legal challenges. Actually, any state which establishes a testing program will undoubtedly be sued, sooner or later, and probably sooner. The concern is not whether a legal challenge will appear, but rather how defensible are the state's procedures that were used in developing the test and setting the passing scores.

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[7] R. J. Herrnstein, "IQ Testing and the Media," The Atlantic, August 1982, p. 74.

Florida, one of the first states to establish basic skills public school tests, was also one of the first states to be sued. The dominant legal issues (in 1970) were:

a. Are the tests valid?

b. Are the tests reliable?

c. Are the tests culturally biased?

d. Was there enough lead time provided students before the requirement was imposed?

The courts allowed Florida to continue its testing program for diagnostic purposes but denied it the authority to refuse any student a graduation diploma until there was adequate lead time.

More recently, a South Carolina test was dismissed by the courts because of the lack of an established standard.

Courts in recent years have waivered between a strict interpretation and a more loosely constructed view. No state can safely predict how a court will rule if the state is sued. But, the state can adopt procedures that are most defensible.

The question about whether norm-referenced or criterion-referenced tests should be used relates to these legal issues. A criterion-referenced test begins with state objectives and test items are developed from them. Such tests have content validity and are easily defensible.

6. Costs

The last major issue to consider is "What will the various options cost?"

Clearly, the use of standardized norm-referenced achievement tests will cost little. The student taking the test pays a fee.

South Carolina has in the past few years developed basic skills tests in reading, writing, and mathematics as well as content-specific criterion-referenced tests and a performance assessment test. The costs of that state's test development efforts were as follows:

- Planning, Development, Evaluation Associates developed for South Carolina basic skills tests in three areas for $75,000. A second grant of $75,000 was also given to support a year of field tests.

- Educational Testing Service worked with South Carolina on a $50,000 contract to make the data from its 18 content areas specific to South Carolina. An additional grant of $10,000 was given to ETS to determine the extent to which individual-score reporting helps the student and the state.

In addition, National Evaluation Systems (NES) estimates the cost of developing a single basic skills examination at $30,000.

Another independent estimate from a test constructor is that a single basic skills mastery test for a specific state could be designed for between $25,000 and $35,000.

The National Teacher Examination charges a candidate $27 to take an examination, and an additional $5 to include a report of a specific state profile.

Also, states may consider using a norm-referenced test and having the items analyzed and assigned to state objectives, thereby creating a criterion-referenced test. No estimates are available on the costs of such an analysis. However, Edward Masonis, ETS, reports that his organization is prepared to work with a state to create state profiles for persons using the NTE examinations. This cost should be less than that of developing a specific statewide criterion test.

The above list of considerations related to the selection and establishment of tests. There are are additional issues to consider.

- The persons who select the test items will begin to dictate the teacher education program curriculum.
- Tests will most likely add another screen to the certification process by eliminating more clearly inappropriate candidates; tests will not, however, identify competent teachers. The basic problem will still remain.
- Tests may reduce the collaborative efforts developed in the past few years by various educational groups. Working together on mutual educational issues will become less important as more and more people spend their time reviewing test items.
- Educators are becoming too reliant on test developers for technical assistance about testing issues. Few states have sufficient staff who have the needed technical background in psychometrics. When this happens, the test developers begin to influence policy decisions at the state level.

Recommendation: A Study of Issues Related to the Assessment of Educational Personnel should be completed.

The issues are not state specific. An organization such as NEREX could undertake the study and provide assistance to all states in the region. This study should be coordinated with the study of certification systems. It is clearly possible that effective testing programs might eliminate or drastically alter present certification systems.

Who's afraid of teacher competency tests?

Competency tests are a fact of life for many new teachers. Just how bad are they?

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Marge Scherer

Fifteen years ago Pam S. graduated from college with a major in history and a minor in education. After a six-week stint as a practice teacher, she was qualified for a lifetime teaching certificate in the state of Missouri.

If Pam S. were an aspiring teacher in 1983 and if she lived in Virginia, she might be able to "comp out" of education courses and get a provisional, two-year certificate to teach on the basis of a liberal arts degree and a passing mark on a competency test.

On the other hand, if Pam were a new teacher candidate in Georgia, in 1983, she would have to do all of the following to get a professional, renewable certificate to teach: graduate from her college's approved teacher training program; take criterion-referenced competency tests of general and subject-area knowledge; and, in her first year of teaching, have her teaching performance favorably assessed by a team of independent evaluators.

The states always have differed in certification requirements and continue to do so, but while some states continue to award certification on the basis of teacher training, the new requirements point to new realities: the days of permanent certification are over in more than one-half of the states, and in more than one-third of them, the days of the competency tests have arrived for new teacher candidates.

Although in a few cases the competency test is used in lieu of teaching credits (usually with the provision that the teacher acquire them later), on the whole, competency tests are required in *addition* to education credits and practice teaching.

What kinds of tests exist?

Teacher competency tests are generally of two types: tests of knowledge and the performance-based tests in which a teacher is observed in action in the classroom. The National Teachers Exam, published by the Educational Testing Service, is the most well-known test of knowledge for teachers. Currently, eight states require it, and school systems in 40 states use it for selecting teachers. Some states have established minimum passing scores for teachers of various subject areas (usually no higher than the 20th percentile for the test-taking population); others simply require all candidates to take the test.

The NTE, revised in 1982, has three separate modules, which can be taken together or one at a time. The newest module, the communications skills assessment, consists of reading, writing, and listening tests; the general knowledge module contains subtests on literature and fine arts, mathematics, science, and social studies; and the professional module tests knowledge of educational concepts, such as planning and evaluation techniques.

In addition to tests of general knowledge, many testing companies, states, and independent organizations have developed subject knowledge tests. The Michigan Council of Teachers of Mathematics has developed its own test, a voluntary one, which tests the math concepts and skills a teacher is expected to teach in grades K-8. The test has some multiple-choice items, but it also requires test-takers to illustrate their process of finding answers. The test is recommended for use at the college level—both to provide feedback about college math education training and to give students an additional credential. At the inservice level, schools and teachers are urged to use the test as a staff-development instrument.

More than a dozen states have developed their own general or subject area competency tests, most with the aid of testing companies and most validated by committees of educators within the state. Oklahoma law, for instance, mandates that every new teacher candidate take a general curriculum exam consisting of 120 items. The criterion-referenced test includes items on language arts, social studies, math, and science. The state publishes pass rates and makes available the objectives of the test to prospective candidates. After passing the exam, the graduate receives a one-year *license* to teach, but in the first year of teaching he or she remains under the supervision of an Entry Year Assistance Committee, consisting of one representative from college, one from administration, and a master teacher in the building. Before a person is awarded a *certificate* to teach, he or she also must pass a test geared to subject area and grade level. (The social studies test had only a 32 percent pass rate last year, its first year of administration.) At the end of the first year of teaching, the teacher is either recommended for permanent certification or for another provisional year.

Georgia, the forerunner in developing performance-based competency tests, grants full certification only after the first year of teaching. During that year, the

Plainville Center
Big Bad Test Sc

teacher must prepare a 10-day unit on a topic of his or her choice, make teaching materials to be used in the unit, and prepare a portfolio of materials to be presented to three trained data collectors—an administrator, a peer teacher, and one member of a regional assessment center.

The three collectors observe the teacher in the classroom independently of one another on three separate days. They numerically rate the teacher on 14 competencies (described by 45 indicators) including the ability to use a variety of teaching styles, interpersonal skills when talking to students, and knowledge of students' learning modes. The three data collectors' ratings are computer analyzed. The resulting "teacher profile" and an interview at which the data collectors ask the teacher the questions published in the state's performance manual together help to determine whether the teacher is granted a certificate.

The teacher who passes the assessment the first year assumes the third-year salary step in his or her second year of teaching. The teacher who fails has two more years in which to try.

Who's afraid of competency tests?
Since the early days of the competency movement, the pass rates of tests have improved. Last year more than 86 percent of Florida teachers taking the certification exam passed all four parts on the first try. Within four years, Louisiana's pass rates increased by about 20 percent, up from 53 percent in 1978 to 70-75 percent by 1982. And last year in Georgia, 79 percent of those who took the certification exam passed on the first try, and 57 percent mastered all 14 competencies in the performance assessment the first year they taught.

With the higher pass rates, educators' criticism of competency tests has muted somewhat. Although many educators do not wholeheartedly endorse the tests, many do accept them and expect them to improve in reliability.

The American Federation of Teachers, a proponent of "accurate and appropriate measures to certify teachers," cites a recent survey that disclosed that only one in five teachers had strongly unfavorable feelings toward competency tests. About half felt the results of the tests provided clues to needed remedial work, the AFT says.

The National Education Association, on record as "opposing tests as criteria for certification, placement, or promotion," supports "research that would effectively and meaningfully evaluate a person's ability to teach."

Speaking for the American Association of Colleges for Teacher Education, David Imig says, "The profession supports testing of beginning teaching." He adds that "although the technology of the test needs improvement," the competency movement "creates the kind of stress necessary to change schools of education." He emphasizes, however, that the change in curriculum should come "not from test-makers, but from educators."

Many of the officials in the southeastern states where the tests are in use also believe

TESTS *continued*

the tests have improved teacher training programs. After the National Teachers Exam was given in Louisiana, all colleges requested the Educational Testing Service to analyze test responses to help them identify weaknesses in education programs, Jacqueline Lewis, director of higher education for Louisiana, reports. As a result, "many colleges beefed up their humanities courses, revamped ed psych courses, and added classes on classroom management and test-taking seminars," she says.

Lester Solomon of the Georgia Department of Education explains that the states support competency tests because they believe the tests are an answer to the increasing public outcry for better teachers. "Up until now, states had not exercised their authority to check teacher education programs externally. Today we feel our testing program eliminates the ten percent or so who should not be teachers and helps the marginals do better." He adds, "Teacher colleges support the testing movement, hoping it will accomplish what they have been unable to do—namely, prove to the public that they are producing competent teachers."

"Competency tests create the stress necessary to change schools of education"

Criticism of the competency tests comes from two major directions—from those who don't think the competency tests are valid enough and from those who don't think the standards are high enough.

Donald Medley of the University of Virginia has written a monograph on competency testing and teacher education. He says, "There is a widespread delusion that you can tell who is a good teacher by testing or by looking at his or her teaching on any given day. . . . We must depend on colleges to identify and screen out the incompetent. If we can't do it in two to four years, how can we do it in a three-hour test?" Medley advocates more research on use of videotapes, computer simulations, and other ways to assess the decision-making abilities and perceptual skills of teachers while they are still in college. Medley also states that research thus far has not borne out any high degree of correlation between teacher performance on tests and student achievement.

Another argument about the validity of the competency tests of knowledge, one that has led to several lawsuits, is that the

What's on the competency tests?

Here's a sampling

Below are sample questions from the National Teachers Examination.

Reading

1. "One study measuring the work that elementary school teachers are required to do during the course of each school day reported that teachers spend roughly 30 percent of their time doing work that is directly related to academic instruction and learning."

If the findings of the study mentioned in the above statement are true for all elementary school teachers, then which of the following statements must also be true?

(A) Elementary school teachers spend roughly 30 percent of their time teaching.

(B) Much of the daily work that an elementary school teacher is required to do is not instruction-related.

(C) Elementary school teachers are required to do more work in a school day than they actually are able to accomplish.

(D) The amount of time that elementary school teachers spend doing nonacademic work should be reduced.

(E) Teaching and learning are not the most important of the many responsibilities an elementary school teacher is expected to assume.

Math

2. Tom had a party for some friends and relatives, and 40 people came. If twice as many relatives had come, the number of people at the party would have been

(A) exactly 60

(B) exactly 80

(C) exactly 81

(D) between 40 and 80, but not necessarily 60

(E) more than 40, but no maximum can be set

Science

3. Which of the following can be detected by amniocentesis, a procedure performed during pregnancy?

(A) Diabetes

(B) Harelip or clubfoot

(C) Down's syndrome (mongolism)

(D) Syphilis or gonorrhea

(E) Measles

Social Studies

4. Which of the following is the correct chronological order for the events in United States history listed below?

I. The beginning of the Great Depression
II. World War I
III. The New Deal
IV. The Korean War

(A) I,II,III,IV

(B) II,I,III,IV

(C) II,III,I,IV

(D) III,I,IV,II

(E) III,IV,II,I

Professional knowledge

5. Which of the following is an example of the type of question used in the instructional strategy known as inquiry?

(A) What is the definition of the term "urban"?

(B) Why are there more people living in urban areas than in rural areas in the United States?

(C) Which urban areas have you visited in the United States?

(D) What part of the United States has the highest concentration of urban areas?

(E) Would you like to live in an urban area, a suburban area, or a rural area?

ANSWERS: 1.B; 2.D; 3.C; 4.B; 5.B.

Performance assessment

Following are 3 of Georgia's 14 indicators of competence. After observing the teacher, the data collectors rate each item on a scale of 1 to 5, with 5 being the highest. The state's manual further specifies the type of behavior necessary for each rating.

A. Plans instruction to achieve selected objectives.

1. Specifies or selects learner objectives for lessons.

2. Specifies or selects teaching procedures for lessons.

3. Specifies or selects content, materials, and media for lessons.

4. Specifies or selects materials and procedures for assessing learner progress on the objectives.

5. Plans instruction at a variety of levels.

B. Communicates with learners.

1. Gives directions and explanations related to lesson content.

2. Clarifies directions and explanations when learners misunderstand lesson content.

3. Uses responses and questions from learners in teaching.

4. Provides feedback to learners throughout the lesson.

5. Uses acceptable written and oral expression with learners.

C. Demonstrates enthusiasm for teaching and learning and the subject being taught.

1. Communicates personal enthusiasm.

2. Stimulates learner interest.

3. Conveys the impression of knowing what to do and how to do it.

TESTS *continued*

nature of the tests is discriminatory to blacks and other minorities who have had poorer quality educational opportunities than whites have had. Records show that black teacher candidates in the past have been more likely to fail the National Teachers Exam than white candidates. Although the race differential has declined in recent years since prior notice of competency standards has been required, the objection remains.

"If we can't screen out the incompetent in four years, how can we do it on a test?"

Another objection, raised by black educators in Florida, has to do with this year's new rule whereby accreditation is withheld from departments in education schools where at least 80 percent of enrollees do not pass the competency test. Speaking for Concerned Black Educators, Walter Mercer, professor of education at Florida A. & M. University, says such requirements act as an "academic electric chair" for black prospective teachers at predominantly black universities. "If they want us to stay in existence, they should at least give us more time to build our program to meet their standards. . . . Although we have not raised the question of bias thus far," he says, "it is hard not to think about political reasons behind these rules."

Those who believe the competency tests of knowledge do not adequately measure teacher effectiveness also cite the fact that some knowledge becomes obsolete and that some questions of professional knowledge are debatable. Others feel that education training is being "trivialized" as more and more professional schools offer courses on test-taking and on how to prepare for performance assessment.

Among those taking a strong stand in favor of competency tests and performance assessment is an ad hoc committee of the Council of Chief State School Officers, which surveyed the teacher preparation and certification policies of all 50 states. The committee, chaired by Robert Scanlon of the Pennsylvania Department of Education, recommends that state and federal money be set aside for "development of reliable techniques for using observational data for performance evaluation."

The committee's greatest concern with competency tests at present, reports Sherri Heller, a policy analyst who helped develop the survey, is that "cutoff scores may not reflect standards of excellence but may merely reflect consensus and the desire to maintain teacher supply in the state. . . . What we found is that many states that have required competency tests have done it for political purposes and are not better off as far as standards are concerned. We want to say to institutions, 'Whatever you do, set your standards high enough to make a difference in the quality of teachers.' " To insure uniformly high standards, the committee recommends that states raise minimum competency standards in cooperation with neighboring states.

Turn to page 59

A strong advocate of "measures that would attract high quality candidates for teaching," the committee goes so far as to suggest "summer, fifth-year, and in-service training and use of competency tests to 'test into' a certificate," thereby insuring that "talented graduates of institutions without teacher preparation programs are not lost from the pool of prospective teachers." It urges colleges and school districts to develop support systems to facilitate the training of these new teachers after they are teaching.

The committee also suggests that high standards for competency tests may result in teacher shortages, but that such shortages might lead to higher salaries for those teachers able to meet the standards.

Dale Mullins, dean of the School of Education at Central State University in Edmond, Oklahoma, says that competency tests do discourage people who aren't committed to being teachers and "who look on the teacher's certificate merely as an insurance policy." As far as the theory that shortages could increase salaries goes, Mullins agrees, but says, "The kicker is that school systems are supported by public funds. If funds are just not available, the system is short-circuited." As the result of higher standards, he predicts that a time will come when there will be more highly qualified but fewer teachers in the classroom, with larger groups of students and aides to support them. Then, "we will have to be concerned with quality control" in training the aides, he says.

What do the new teachers who have taken the competency tests think of them? Although some call the exam an "endurance test" and the assessment "a big show you have to put on," many also say the tests are worthwhile and have made them more effective teachers.

Virginia Stratton, a fifth grade teacher in Atlanta, says, "Being evaluated by a three-person team made me look at every aspect of my job. It forced me to bring together everything I knew about teaching and to apply it."

Rebecca Hagen, a math teacher in Douglas County, Georgia, says that although she prepared "at least three months in advance, much longer than I could ever do in a normal situation, it was good to see that I could do it and that I was capable of using four different teaching methods in one period, that I could do enrichment and remedial work and all the other things that were required." Her only criticism of the requirements of the performance assessment was that "I was neglecting the other kids" (in classes other than the one for whom she prepared her assessment unit).

First-year teachers also mentioned they felt well-prepared for the assessment, having taken college courses that directly related to it. Some mentioned that students from outside the state would have a much harder time passing the assessment even with the help of master teachers.

Of those who took competency tests of knowledge only (and not the performance assessment), one teacher called the test "nothing to tax your brain." Most thought the tests were fair and "what any beginning teacher should know," because, after all, "you can't teach what you don't know." A few commented on the arbitrariness of the scores and cutoff points, noting that those who didn't pass the test in some cases became "substitutes or aides until they did pass it."

That competency testing is neither a science nor an art at present is an opinion that both critics and proponents of competency tests hold. Many believe as William Swart, a professor of mathematics at Central Michigan University, does. "'Comping out' is practical for certain subjects, but the notion that the complex business of dealing with children can be described in testable terms is absurd." Others are beginning to believe as Ann Kieschnick, a principal in Dallas, Texas, does. "Too many people feel that anybody could teach, and that simply is not so. These exams will prove that teachers have lots of skills, which will validate and enhance the teacher certificate and add prestige to the profession." ☐

What is your opinion of teacher competency tests? Send your reaction to their use in your district to INSTRUCTOR, *Dept. CT, 757 Third Ave., N.Y., NY 10017.*

Marge Scherer is senior editor of INSTRUCTOR. Research for this article was done by **Marge Scherer and Debra Martorelli.**

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STATE COMPETENCY TESTS DEPLETING NUMBER OF MINORITY TEACHERS

State teacher competency tests are screening minorities out of the teaching profession, the preliminary findings of a new study warn.

According to testing data from 10 states, test pass rates for black teacher candidates range from 10 percent to 85 percent, far below that of white candidates.

And given current attrition rates and a projection of continuing low pass rates, the percentage of minorities holding teaching positions in the nation could fall from 1980's 12.5 percent to 5 percent or less within a decade, according to data collected by G. Pritchy Smith.

Smith, chairman of teacher education at Jarvis Christian College in Hawkins, Texas, and a member of the American Association of Colleges of Teacher Education's (AACTE) Multicultural Task Force, has also found that pass rates for Asians range from 50 percent to 82 percent, while the success rate for Hispanic candidates in four of 10 states surveyed fell below 50 percent.

"Regardless of the state and regardless of the type of examination--entrance or exit, standardized or customized--disproportionate numbers of minority teachers are being screened out of the teaching profession," Smith writes in the most recent issue of AACTE's newsletter, "Briefs."

In Louisiana, for example, state colleges have produced only about 55 certified black teachers per year since the inception of competency testing in 1982. And in Texas, last year's Pre-Professional Skills Test (P-PST) resulted in certification of only 12 out of 126 black candidates, 84 of 436 Hispanics and 20 of 43 Asian, Native American and other minority candidates. Of the 2,133 white candidates taking the test, however, 1,324 passed, Smith's data says.

"Thus, if pass rates do not improve, projections of 1986 Texas teacher education graduates indicate that black teachers will constitute less than one percent; Hispanics, 5.8 percent; and other minorities, one percent," said Smith.

If steps are not taken to rectify the situation, he maintains, the entire pool of qualified teachers will also decline, regardless of ethnicity.

PASS RATES FOR 10 STATES' TEACHER COMPETENCY TESTS

State	All	Whites	Asians	Blacks	Hispanics	Native Americans
Alabama	81%	86%	---	43%	---	---
Arizona 1/6/83	66	73	50%	24	42%	22%
7/9/83	59	70	25	41	36	19
California	68	76	50	26	38	67
Florida 6/82	85	92	67	37	57	90
2/83	84	90	63	35	51	100
Georgia	78	87	---	34	---	---
Louisiana	77	78	---	15	---	---
Mississippi	---	97[1]	---	54	---	---
	---	100[2]	---	70	---	---
Oklahoma	78	79	82	45	71	70
Texas	54	62	47	10	19	47
Virginia (Trial Testing)						
Communication Skills	---	97	---	56	---	---
General Knowledge	---	99	---	69	---	---
Professional Knowledge	---	99	---	83	---	---

[1] Pass rates at predominately white public institutions.
[2] Pass rates at predominately black public institutions.
Source: American Association of Colleges for Teacher Education.

Seven of the 10 states Smith surveyed have overall pass rates of less than 80 percent, creating "a greater national teacher shortage than was predicted during the pre-competency testing era ... unless other factors induce greater numbers of undergraduates to enter teaching," Smith writes.

The competency tests may also end up reducing enrollments in schools, colleges and departments of education, according to Smith. If a state requires an exit examination and the pass rates on the test are traditionally low, an "undergraduate 'discouragement factor' may result," Smith writes.

In California and Texas, for example, where the California Basic Skills Test (CBEST) and the P-PST are used as admissions examinations, "overall pass-rate data indicate declines in enrollment could be as high as 32 to 46 percent," according to Smith.

While historically black colleges will continue to experience severe declines in teacher education enrollments, schools of education with predominantly white students may also be affected, according to Smith.

"The dilemma of institutional pressures to achieve excellence with shrinking enrollments and budgets is likely to continue" at most schools, he says.

For more information on the data sources or to contribute data to AACTE's Multicultural Task Force, contact Smith at the Division of Education, Jarvis Chritian College, Hawkins, Texas 75765. --Greg McCaffery

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TESTING TEACHERS IN LOUISIANA: A CLOSER LOOK

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by Donald Kauchak

One by-product of competency testing for teacher certification has been a nationwide decrease in the number of blacks who enter teaching, says the author, who examines this phenomenon in one southern state.

IN THE LAST decade there has been a definite trend toward the increased use of competency tests in the certification of teachers. By 1982, 15 states required some type of competency test prior to certification,[1] and by 1985 half the states in the U.S. will do so.[2] Of the 15 states that were already using tests for certification in 1982, eight used the National Teacher Examinations (NTE).

One undesirable by-product of competency testing for teacher certification has been a nationwide decrease in the number of blacks who enter teaching.[3] I wish to explore in this article how this is happening in Louisiana.

In 1977 the Louisiana legislature passed a law that stipulated that all new applicants for teacher certification must pass a competency exam.[4] The legislature did not specify the test to be used or the cutoff score to be reached; both of these decisions were left to the state superintendent of public instruction. The superintendent selected the NTE and convened a panel of teacher educators to recommend

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Figure 1. [illegible]

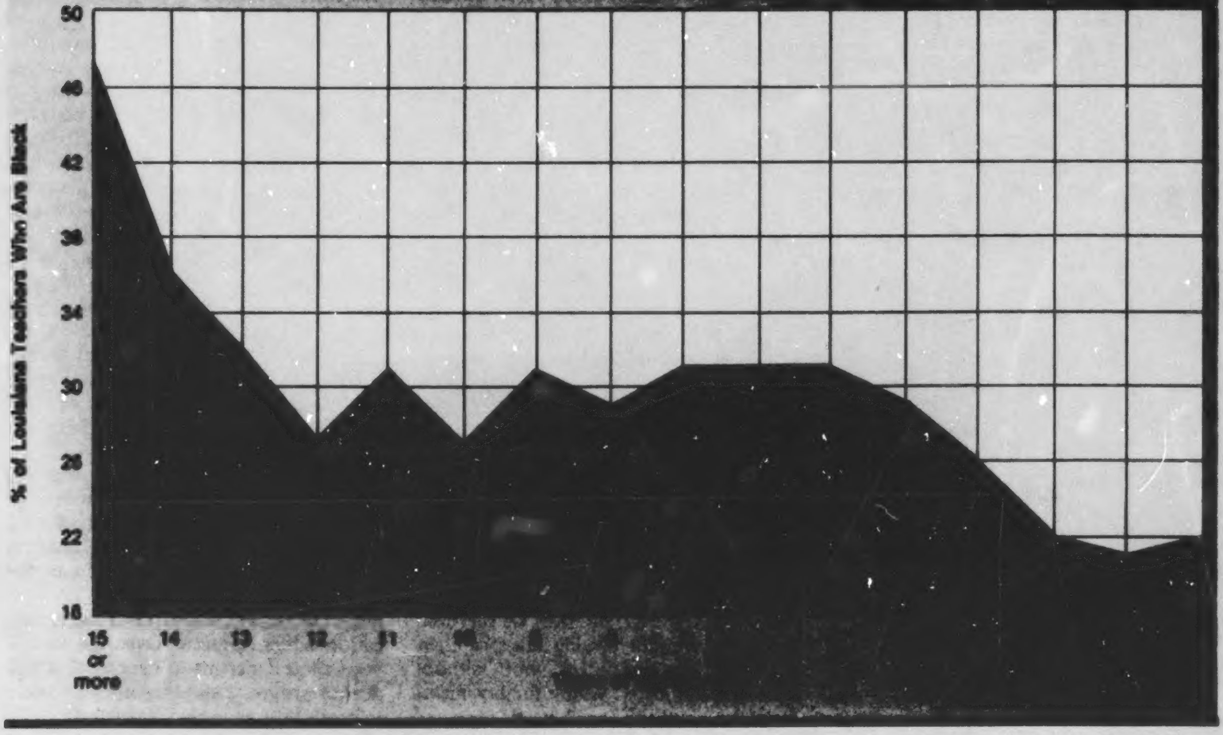

Illustration by Charmaine Dapena

minimum scores for certification in various subject areas.

As it has been used in Louisiana, the NTE consists of a common exam, which measures general professional knowledge and such general educational skills as knowledge of English and mathematics, and area exams, which measure understanding of the content and methods applicable in separate subject areas.[5] A panel of teacher educators determined cutoff scores for certification by examining individual items on these tests and considering 1) whether teacher education candidates at their institutions would have had an opportunity to learn the knowledge required to answer a given question correctly and 2) how important and difficult each item was. The cutoff scores were composite scores, so a strong showing on the common exam could offset a poor showing in a content area, or vice versa. The recommended cutoff scores ranged from about the 25th percentile in one area to the 60th percentile in another; the average was between the 40th and 45th percentiles.[6]

In 1978, when the test was first administered for purposes of certification, 502 of 950 graduates taking the test met the cutoff score, for a passing rate of 53%. In August 1982, 176 of 231 graduates taking the test met the cutoff score, for a passing rate of 76%.[7]

Superficially, these figures suggest that the new certification process has resulted in improved teacher education programs, as reflected in the higher percentage of 1982 graduates who passed the test. And it is tempting to conclude that education in Louisiana must also have improved. However, a closer look at the data from five years of testing in Louisiana raises some questions about such facile conclusions.

A Study in Black and White

In 1980 blacks made up 29.4% of Louisiana's population.[8] Figures from the state department of education show that 37% of the schoolchildren and 34% of the teachers in the state are black.[9] This latter figure remained fairly stable between 1973 and 1982. But the use of the NTE in the certification process is changing that picture.

Figure 1 shows the percentage of Louisiana teachers with specified amounts of experience who are black.[10] Two points should be noted. First, the sharp drop in the percentage of black teachers who have fewer than four years of experience roughly corresponds to the beginning of competency testing for certification in the state. Second, 47% of teachers with 15 or more years of teaching experience are black. We can only speculate as to why the percentage of black teachers with so many years of experience is so high. Probably the best explanation is that in segregated times in Louisiana teaching was one of the few respected professions open to blacks. Whatever the reasons for the declining percentage of blacks entering the profession, as current teachers grow older and retire, the racial composition of the teaching force will change.

I should note at this point that the percentages displayed in Figure 1 are probably slightly inflated because they include teachers teaching on emergency certificates. Emergency certificates are issued to candidates scoring within 10 percentage points of the criterion score in their area. These certificates are valid for one year and must be renewed yearly. But transition to regular status depends on retaking and passing the NTE.

The most recent decline in the percentage of blacks entering the teaching force in Louisiana can be explained by examining data on the performance of blacks on the NTE. Since the beginning of competency testing in Louisiana in 1978, only 15% of the 1,394 black students from public institutions who took the NTE achieved a passing score. This figure represents a 10% passing rate for blacks at predominantly black public institutions and a 28% passing rate for blacks at predominantly white public institutions in the state.[11]

Thus a partial explanation for the declining percentage of black teachers in Louisiana is that blacks are experiencing difficulty in passing the NTE. But by itself the passing rate of blacks does not fully account for the drop in the percentage of black teachers entering the teaching force in the state. There has also been a decline in the number of black graduates of public institutions who took the test. Table 1 shows a steady decline over the years in both the absolute and relative numbers of blacks who took the NTE.[12] Thirty-one percent of all Louisiana students who took the NTE in 1978 were black; only 13% of all Louisiana students who took the test in 1982 were black. The absolute numbers show a similar drop.

Since the inception of competency testing in Louisiana, only 211 black graduates of public institutions in the state have passed the NTE.

Since the inception of competency testing in Louisiana, only 211 black graduates of public institutions in the state have passed the NTE — just over 40 black students per year. This figure is well below the 580 black teachers that should have been hired each year if the racial composition of the teaching force was to be maintained at pre-1978 levels.[13]

What effect has all of this had on blacks entering teacher education programs? Teacher education enrollments at the two largest predominantly black institutions in the state have declined dramatically. The number of junior education majors at these institutions declined from 400 in 1979-80 to 273 in 1981-82 — a 32% drop. The number of senior education majors at these two institutions fell from 768 in 1979-80 to 389 in 1981-82 — a decline of 49%.[14]

Do these enrollment figures mean that prospective black teachers are leaving these predominantly black institutions for institutions where the passing rate is higher? Obtaining accurate data on student transfers from one institution to another is not easy, but two isolated bits of information suggest that large numbers of black students are not migrating to other institutions. First, the number of black graduates of predominantly white institutions who took the NTE has not increased. Instead, it has declined consistently over the last five years, with only 39 blacks from predominantly white in-

Table 1. Race of NTE Test Takers in Louisiana, 1978-82

Year	Number of Black Graduates Taking NTE	Percent of Total Test Takers	Number of White Graduates Taking NTE	Percent of Total Test Takers
1978*	284	31	63[illegible]	69
1979**	444	22	1,562	78
1980**	361	21	1,356	79
1981**	210	17	1,050	83
1982†	95	13	616	87

*One test administration.
**Three test administrations.
†Two test administrations recorded for 1982.

Recently, only 23% of teacher education graduates from the two largest predominantly black institutions in Louisiana attempted the NTE.

stitutions sitting for the first two administrations of the test in 1982, down from 79 in 1979, 55 in 1980, and 53 in 1981.[15] Second, figures from the Baton Rouge campus of Louisiana State University, the campus that produces the largest number of candidates for certification, reveal no demonstrable increase in the number of blacks seeking admission to teacher education programs over the last three years.[16]

Some Questions

The present trend is clear: fewer blacks are becoming teachers in Louisiana. Its three immediate causes — the low passing rate for blacks on the NTE, the decline in the percentage of black graduates of teacher education programs who attempt the NTE, and the decline in the numbers of blacks entering education programs — are also clear. What is unclear are the reasons that underlie these immediate causes.

Why do blacks have trouble passing the NTE? Is the kind of training they receive at predominantly black institutions in the state a factor? Possibly. A consortium of nine predominantly black colleges in the Southeast believes that a partial answer to this question lies in the mismatch between the training at their institutions and the kinds of questions asked on the NTE. The schools involved are attempting to match their curricula to the content of the NTE through the infusion of more analytical approaches to problem solving in their teacher education programs.[17]

But research on the NTE suggests that improved teacher education programs might be only a partial solution to the problem. In a study conducted in North Carolina, researchers found a .88 correlation between scores on the NTE common examination and Scholastic Aptitude Test scores. This high correlation suggests that part of the problem blacks are having with the NTE may lie in weak academic preparation *prior* to entering college.[18]

What is happening to the black students who no longer enter teacher education programs? And what of the large percentage of black graduates who complete teacher education programs and never attempt the NTE? For the last three administrations of the test, only 23% of teacher education graduates from the two largest predominantly black institutions in Louisiana attempted the NTE. What happened to the other 77% who spent four years training to be teachers?[19] Are they less competent or just less confident than those who attempted the test? Are they now employed in states that don't require a competency test, or have they left teaching altogether for more lucrative or more accessible occupations?

These are just a few of the nagging questions raised by the first few years of experience with a practice that was designed to bring excellence to Louisiana education. Unfortunately, few concerted efforts to answer these questions have been made. Dialogue in Louisiana appears to have polarized around two points of view: one questions the validity of the NTE; the other questions the ability of black students to pass standardized tests or of black institutions to prepare their students to pass these tests. While this unproductive dialogue continues, a valuable human resource is wasted, and the likelihood that black students will encounter black role models in their classrooms declines.

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1. "States Moving to Assess Competency," *NTE News*, Winter 1982, p. 4.

2. Art Harris, "Competency Tests Taking a Toll on Black Teachers," *Baton Rouge Sunday Advocate*, 8 May 1983, p. 9-C.

3. "Wider Use of Tests Blamed for Decline in Numbers of Black Schoolteachers," *Chronicle of Higher Education*, 2 March 1983, p. 7.

4. Louisiana Revised Statutes, 17:7 (b) (i).

5. The new NTE core exam, introduced in November 1982, consists of a test of professional knowledge, a test of general knowledge, and a test of communication skills that includes subtests of listening, reading, and writing. This new NTE is now being validated in Louisiana.

6. "National Teacher Examination Composite Score Requirements for Initial Teacher Certification in Louisiana," Louisiana Department of Education, Baton Rouge, 1982.

7. "Results of National Teacher Examinations," in *Louisiana's Education*, Vols. II-VI (Baton Rouge: Louisiana Department of Education, 1978-82).

8. U.S. Bureau of the Census, "General Population Characteristics, Part 20, Louisiana," *1980 Census of the Population* (Washington, D.C.: Superintendent of Documents, 1982).

9. *133rd Annual Report, 1981-82* (Baton Rouge: Louisiana Department of Education, 1982).

10. "Number of Teachers by Years of Experience and School Level," *Annual Statistical Report of Education*, Part IIB, Section 1, 1981-1982, unpublished, Louisiana Department of Education, Baton Rouge.

11. "Performance of Louisiana Students on NTE by Race, December 1978-August 1982," unpublished, Board of Regents, Baton Rouge, 1983. (Comparable figures for private institutions in the state were not available, but these institutions typically provide only about 10% of the new teacher candidates in the state.)

12. Ibid.

13. This latter figure was calculated by multiplying the number of new teachers in the state with three years or less experience by .34.

14. "Student Headcount by Declared Major (Detailed)," Louisiana Board of Regents, Baton Rouge, 1979-80 — 1981-82.

15. "Performance of Louisiana Students. . . ."

16. "Transfers to College of Education" (unpublished), Louisiana State University, Baton Rouge, 1979-82.

17. "Black Colleges Seek to Boost Test Skills," *Education Week*, 6 April 1983, pp. 3, 17.

18. Q. Whitfield Ayres, "Student Achievement at Predominantly White and Predominantly Black Universities," *American Educational Research Journal*, Summer 1983, pp. 291-304.

19. These figures do not include graduates who waited a period of time before taking the NTE. □

Legal Issues

Malpractice in Teacher Education: The Improbable Becomes Increasingly Possible

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Delbert Clear

Litigation charging professional malpractice in education is a relatively recent phenomenon, although teacher liability for harm to students that arises because of negligent supervision or improper exercise of authority has long been established. Such cases have almost always arisen from actual physical injury wherein students seek relief from medical expenses, pain and suffering, lost potential wages, and the like. Common to all such decisions is the common law definition of negligence that has derived from the variety of contexts in which people have found themselves injured by others. This definition includes the following points: (1) existence of a duty or owed standard of care; (2) existence of a legally recognized harm; (3) negligent breach or failure to meet the standard of care owed; and (4) the breach to have caused the harm (Restatement [Second] of Torts, 1965, section 328A).

The best way for producers of goods and services to avoid the inconvenience and expense of litigation is to understand both how harm can arise from their acts, and how those acts will be tested to determine whether liability is to be attached to them in the event of litigation.

Though these conditions have long been in effect, only recently have they been popularly seized upon by both plaintiffs and courts to redress a wide range of unhappy events. The broad consumer protection movement is based in part on well-publicized successful product liability litigation both in durable goods and in the delivery of professional services. The now familiar recalls of products ranging from $10,000 automobiles to free promotional toys by the McDonald's chain of restaurants testify to business firms' reluctance to risk having their products tested in court, and the recent escalation of medical malpractice cases illustrates the point in professional services. Whether the current view that the courts are the place to correct a panoply of wrongs is groundless (or at least unwise) is a topic of considerable concern to the legal profession (Chapper, 1982). Chapper concluded that "people have unrealistic expectations of what a court can do. There is no legal remedy for every wrong" (p. 2).

Nevertheless, actionable wrongs do occur, and the court's role is to provide the means for their redress. The best way for producers of goods and services to avoid the inconvenience and expense of litigation is to understand both how harm can arise from their acts, and how those acts will be tested to determine whether liability is to be attached to them in the event of litigation.

Professional Malpractice Litigation

Product liability and other consumer protection claims have a unique quality in torts. In general tort litigation, claims usually arise from events that seem on the surface to have occurred accidentally. By contrast, product liability claims are based on challenges to conscious and deliberate processes which are designed to produce a predicted outcome or product. Thus, the role of random circumstances and the creation of the mythical "ordinary person" against whom to compare actions is much diminished in product liability cases. Instead, acts are tested against rational, often written, plans and standards of performance. This occurs because the technical expertise implied in planning and production or in making professional decisions provides an identifiable and stable, albeit complex, set of standards against which individual practice can be compared. There is little need, therefore, to develop *post hoc* assertions of what a defendant either knew or should have known; the knowledge provided by scientific information, testing, ascertainable normative standards, and written procedures common among all performers of similar processes establishes the level of duty that is owed. Plaintiffs are thus given a two-edged tool for proving the breach in the duty and the cause of the harm. One edge is the record of the processes and norms which should have been followed. These procedures and standards guide the retrospective tracing from the product failure or harm to a breach which could possibly have caused it. The other edge is that precisely locating an omission in the well-established procedures essentially self-defines that the breach was the cause of the harm, inasmuch as the design of the procedures implies that, had these processes been followed (or aptly designed), the product or other outcome would have emerged as expected and, by implication, promised.

Though this characterization has a production-of-goods overtone to it, its application is not limited to manufacture of durable goods. Practitioners in professionalized occupations, by nature of their standards of professional preparation and performance, can have their work similarly tested. Medical, legal, and nursing professionals are often the targets of such scrutiny, partially because of the dramatic and extremely personal impact of their decisions, but mostly because each has identifiable and stable performance standards by which individual practice can be assessed. The widespread publicity that large medical malpractice awards have recently received undoubtedly contributes much to the popularity of this kind of litigation as well.

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Professionals in education have traditionally not experienced direct malpractice litigation, though the notoriety of the few cases that have been filed has sparked widespread interest. Less than ten years ago, educational malpractice suits were unknown, but since 1976, three major cases (and a number of minor cases) have been decided. The first of these cases, *Peter W. v. San Francisco* (1976), denied relief to the student for four reasons: (1) No standard of care could be ascertained; (2) The reason for the failure to learn could not be definitively identified; (3) The value of the harm was difficult to determine; and (4) The spectre of a flood of similar suits which would overwhelm already strained courts and public school systems was envisioned. The other two major cases, likewise, denied relief to the plaintiffs, with the courts involved citing one or more of these four reasons, regardless of the *prima facie* validity of the student's claims (see, especially, *Hoffman v. Board of Education*, 1978). One of the courts added a fifth rationale for denying relief — that the judiciary is incapable of assessing the efficacy of educational programs and pedagogical methods (*Donohue v. Copiague Union Free School District*, 1978). For the time being, at least, according to Collingsworth (1982), a student in an elementary or secondary school has "no recourse against a teacher who negligently denies him the benefits of a proper education" (p. 479).

The Teacher Educator as Defendant

Though teacher educators work in colleges and universities where courts, including the United States Supreme Court (*Board of Curators of the University of Missouri v. Horowitz*, 1978), have consistently refused to review academic decisions, certain characteristics of their work set them apart from the broad protections currently available to elementary and secondary teachers. These characteristics make teacher educators potentially attractive as defendants in malpractice suits. The first of these is teacher education's function as a professional training sequence which strongly implies that, upon successful completion of the course of study and certification, entry-level competence to perform the profession's tasks will be present. The second characteristic is the existence of known or knowable competencies of effective teachers that a student might reasonably expect to be taught during the course of training. Taken together, these two qualities closely approach the status of an implied contract between the student and the institution, with its key being the phrase "successful completion of the course of study."

A student who fulfills his or her part of the bargain by passing all courses and other experiences and is recommended for certification should plausibly expect to have the institution fulfill its part of the bargain in return — teaching sufficient content and skills for entry level job performance.

A student who fulfills his or her part of the bargain by passing all courses and other experiences and is recommended for certification should plausibly expect to have the institution fulfill its part of the bargain in return — teaching sufficient content and skills for entry level job performance. This expectation, it should be noted, is directed at the institution and its teacher education program rather than at any particular instructor in it. This leads directly away from a plaintiff ultimately asking a court to rule on the validity of a particular professor's decisions (which courts are very reluctant to do) and into the more justiciable realm of asking a court to determine whether a particular program of studies met all known standards for completeness, recency, and scientific validity.

Certainly judges, as members of a profession, would understand the logic of a claim that any professional training sequence ought to have standards which insure that its students are exposed to all that is needed for successful entry-level performance.

Though a convincing argument of the existence of such standards would by no means be easy to formulate, its seeds would clearly fall on more fertile soil than would an attempt to convince a court to reverse current precedent against judicial review of academic decisions. Certainly judges, as members of a profession, would understand the logic of a claim that any professional training sequence ought to have standards which insure that its students are exposed to all that is needed for successful entry-level performance. They might be thus persuaded that someone harmed by not having been taught them (as opposed to not having *learned* them) has a justiciable claim. The case of a hypothetical student from heretofore Unknown University illustrates how this might arise:

> A student duly takes and successfully passes all prescribed course work, including student teaching, in elementary teacher education. Upon completion of his first year of employment as a third grade teacher, he is nonrenewed and is told that his inability to teach satisfactorily is the reason. Fortunately for him, he is able to secure a position the following year. At the end of the second year of experience his is again non-renewed and is told the same thing about his inability to teach. This time he is presented with a written list of all the things he cannot do adequately, including such things as make large group presentations, efficiently manage instructional time, cover adequately the course content, keep the children focused on learning tasks, and organize and manage his classes. He is given a number of references to recent research on teacher effectiveness so he can examine in detail his shortcomings. He is unsuccessful in obtaining a teaching position for the following year.
>
> Somewhat dismayed at his lack of success, and looking for someone to blame for his misfortune, he turns to examining the teacher education program he had so recently

> completed to determine just when and where he missed learning the knowledge and skills now required of him for successful employment. Quite to his surprise, he finds no evidence in any of his syllabi, textbooks, or class notes that discussed any of the skills. He discovers, however, that most of the time in his education classes was devoted to asserting the efficacy of "open education" and the value of student-initiated, self-directed learning. He recalls that during his student teaching, he was visited only once by his university supervisor, who never initiated any conversation about his experiences except that he was "doing fine," and that his supervising teacher in the school permitted him to have full responsibility for only one class because the pupils were a difficult group and from poor families.
>
> Finding the whole situation a bit curious, and increasingly interesting, he discusses the matter with a former classmate, now an attorney just beginning private practice after having been trained by one of the state's premier tort lawyers. At his friend's suggestion, he goes to the local university library and locates all the current research on teacher education, teacher competency, and teacher correlates of student achievement. Much to his surprise, he recognizes a number of names which had been mentioned by his former employer and finds that their writings rather nicely comprise the bases upon which his ineffectiveness was described during his two abortive years of employment.
>
> Careful reading of the material leads him to the realistic conclusion that, indeed, he did not know how to teach — disappointing but evident! Taking this conclusion back to his lawyer friend, he rather sadly confides that the schools were right, he probably should go into some other line of work. His friend, however, suggests that they look at the matter differently. Perhaps he did not, indeed, know how to teach. Perhaps, as well, he would be happier in some other line of work. That, however, is not the point. He had lost the capability to earn his living in the occupation of his first choice and the fault was not his. Someone was negligent in not having taught him the skills necessary for successful entry-level employment as an elementary teacher. And that someone, according to the common law of torts, was liable for the damages that clearly resulted from it.

How far might this unhappy potential plaintiff get? Not far, it might be argued, for well-set precedent in educational negligence refuses to impose on public school teachers a duty that every one of their students learn this or that — certainly this would apply to university teachers as well. Further, courts have consistently refused to review academic decisions in higher education.

If there are no performance standards for teachers, there can be no performance standards for those who prepare them.

The conclusion, however plausible, is flawed. First of all, nearly all the precedent in higher education regarding academic matters has arisen from situations where students have been dismissed due to academic inadequacies. The student here was not dismissed — he graduated and was certified. Second, the contemplated complaint is not simply that the student did not learn the knowledge and skills requisite to success as a teacher. It asserts, by contrast, that he was never taught them. Direct extrapolation from existing cases to this one, therefore, is clearly unwarranted; controlling precedent will have to be found in other cases that better correspond to the specific facts at hand.

Such an argument can be formulated by analogy from the law of professional malpractice to institutional malpractice. Though such juxtaposition of the terms in novel, the principle has solid precedent in *Darling v. Charleston County Memorial Hospital* (1965). Here, a patient recovered damages directly from a hospital for its failure, among other things, to require a doctor to update his procedures. Subsequently, decisions involving institutions as defendants in claims against their professional employees have been accepted without challenge (except in jurisdictions where governmental immunity still applies). *Peter W., Donohue,* and *Hoffman* all used this approach, and the status of the institution as defendant was not at issue in denial of relief to the plaintiffs.

For the sake of this discussion, assume that governmental immunity is not at issue, and that the institution will concede that it has a duty to provide a program which meets its catalogue statements and certification standards. This seems not particularly unreasonable, for it would be self-defeating for a university to argue that no such obligation exists. Nevertheless, that same university would vigorously deny the existence of justiciable standards by which the content of its teacher education program might be found deficient.

The artful nature of the teaching profession and the tenuous relationship between teaching and learning would be cited as grounds to bar relief to the student, because the absence of definitive standards would make it impossible to identify any breach in the duty. Certainly tradition, some expert opinion, and past decisions in both the legal and education professions agree. Courts have consistently refused to adjudicate the efficacy of professional decisions, and teaching has traditionally been considered a profession depending more on intuition, inspiration, personality, experience, and even genetic predisposition (she is a born teacher!) than on training, learned skills, and conscious deliberate behavior (Lortie, 1975, pp. 55-80). Gage (1963), after reviewing the manuscripts for his *Handbook of Research on Teaching,* rather wistfully observed that

> hundreds of studies, yielding thousands of correlation coefficients, have been made. In the large, these studies have yielded disappointing results: correlations that are non-significant, inconsistent from one study to the next, and usually lacking in psychological and educational meaning. (p. 118)

As recently as 1976, Shavelson and Dempsey were unable to find "consistent replicable features of human teaching that lead directly — or even indirectly — to valued student outcomes" (p. 553).

Given this state within the profession, it could be argued that no court could find definable standards of performance against which to assess the fulfillment of an institutional duty to prepare students for successful entry-level teaching. Certainly teaching has, to date, resisted examination via the usual proof standards of litigation, wherein standards of performance are first ascertained then an individual's practice assessed against them. Elson (1978), a legal scholar, after examining case law on negligent teaching, as well as conducting a survey of 13 eminent teacher education scholars to determine whether as yet unarticulated justiciable standards might exist, concluded that "whatever its potential, it is clear that we cannot now draw upon educational research and theory to establish minimum performance standards to which teachers can be held legally accountable" (p. 712). Applied to teacher education, this means that if there are no performance standards for teachers, there can be no performance standards for those who prepare them.

Establishing Performance Standards

However, the current refuge provided to teacher educators by the lack of performance standards may not be nearly as secure in the future. Research on teaching effectiveness throughout the decade of the 1970s contains the potential for bringing order into what, from a judicial point of view, has been the non-justiciable chaos of teacher effectiveness standards. Early efforts to identify widely applicable standards include the work of Charters and Waples (1929), who listed over 1,000 common teacher activities and, among other things, calculated the relative desirability of each for inclusion in teacher education programs (see Charters & Waples, 1929, pp. 593-620). The studies reported by Barr (1961) continued the effort, as did the micro-teaching project at Stanford University later in the decade (Ryan & Allen, 1969). The latter studies associated a limited set of component skills of teaching with teaching effectiveness variously defined, and, though the many skills tested were not definitively established as causal of student achievement in all contexts, their behavioral quality added teachable, instrumental skills to the lists of empirically defensible characteristics of effective teachers being compiled by Gage (1965), Ryans (1967) and others.

The distinction between a skills approach and a characteristics approach to studying teaching was given theoretical structure by both Gage (1969) and Mitzel (1960), who argued that progress toward identifying effective teaching could only be made if the variables studied were carefully drawn in behavioral terms. Mitzel had led the way in 1960 by distinguishing between pre-existing teacher qualities, process criteria (teacher activities) and outcome criteria (1960, pp. 1481-1486). Ackerman's (1954) and Gage's (1969) distinction between "high inference" and "low inference" measures were also important contributions, because researchers were motivated to concentrate on the identification and assessment of variables which were amenable to objective measurement and replication in a number of different classroom contexts.

During the 1970s, scholars began to review and summarize the findings that were being reported from these studies (Rosenshine & Furst, 1971; Good, Biddle, & Brophy, 1975; Berliner & Tikunoff, 1976; Brophy, 1976; Rosenshine, 1976; Medley, 1977; and Gage, 1978). Though differences existed among the reports, their similarities were much more striking, at least insofar as they might contribute to formulating justiciable standards for teacher education. Particularly significant is the fact that where differences arose, they were not contradictory or mutually exclusive, but were compatible applications of alternative teacher behaviors in different contexts. For instance, both Rosenshine (1976) and Brophy (1976) found that high teacher management and supervision of learning was related to pupil achievement among low socioeconomic status students, whereas Gage, after reviewing the work of Flanders and Simon (1969) and Ausubel (1963) had earlier concluded that "it seems safe to say that some of the guided discovery methods and 'indirectness' in teaching is desirable" (Gage, 1972, p. 37).

If scholars identify dependable correlates of teaching behaviors and student achievement, is it not thereby incumbent upon teacher educators to teach students to do them?

Such findings are not as incompatible as superficial reading would suggest. They can be made complementary rather than contradictory by noting the differing contexts within which the research was conducted and placing the findings into multi-dimensional typologies of human behavior much like the ones suggested by Halpin (1955). He found that high levels of initiation and direction and high levels of consideration for humanistic factors were not mutually exclusive qualities in leaders. The most effective leaders were those who were high on both dimensions (Halpin, 1955).

The validity of any of the compilations of the many separate, sometimes contradictory, research reports is not the issue. That they can be compiled into intelligible groupings is the important point. Gage (1978) argued forcefully that

> we may now rid ourselves of the pessimism about process-product relationships so often expressed in previous characterizations of the literature. We do have some relationships between teacher behavior and pupil achievement and attitudes on which a scientific basis for the art of teaching may be erected. (p. 231)

Gage illustrated his assertion by reviewing the research which indicates that students at various levels do not learn academic skills as well in informal, so called "open" classrooms, as in more formal, structured ones. He also listed several "teacher should" statements that have been found consistently associated with student academic success in third grade reading classes. Importantly, he noted that "these 'teacher should' statements seem consistent with the conclusions of Rosenshine, Medley, and others" (Gage, 1978, p. 234). Medley, similarly reviewing his own work and that of others, also noted the consistency among the various compilations (Medley, 1982, p. 1897).

These reports suggest that the possibility of articulating justiciable standards of duty in teacher education programs is greater than might be thought. If scholars identify dependable correlates of teaching behaviors and student achievement, is it not thereby incumbent upon teacher educators to teach students to do them? Certainly our disgruntled teacher and his eager attorney will make considerable effort to convince a court that their case sufficiently identifies knowable standards of teacher behavior and that the teacher education program was negligent to ignore them.

Their strategy will be to consider the various reports as additive, rather than separate and competitive. For example, they will cumulate the various studies and the resulting behaviors listed, with none being listed more than once. Table I presents the results of treating the findings of four major studies in this manner, essentially superimposing each on the other to obtain a composite picture of their cumulated findings. There will be no claim that the result is a complete picture of all that every teacher should be taught, because application limited to lower elementary teaching of reading and mathematics to lower socioeconomic status children is required by the data sources from which the compilations were made. Nevertheless, it could be a beginning, minimum list of the skills a teacher education program should teach; any program that failed to do so should be considered to have been negligent in its duty to teach the latest knowledge in the field. For our erstwhile student-turned-plaintiff these arguments might be persuasive — after all, the skills turned out to be precisely the competencies that his employers required.

Though he was motivated more by academic and scientific integrity than by a desire to avoid institutional malpractice, Medley (1982) recognized the need for teacher education to attend more closely to the available research:

> Taken together, these findings present a picture of the effective teacher of the disadvantaged that differs in many respects from the one most teacher education programs have presented to their students. Not too long ago, much effort was devoted to the development of materials and procedures for training teachers to ask more high cognitive level questions and to "use" pupil responses. These results suggest the effort may have been counterproductive. If undergraduates in teacher education are still being told to be permissive, to have pupils spend large amounts of time in small, autonomous work groups, and to avoid large-group instruction, as they were in the past, it is time for teacher educators to take a hard look at this research. (1982 p. 1898)

That a court has not yet been asked to decide the merits of a teacher education institution's curriculum should occasion little comfort. The entire body of tort law is the result of long-forgotten plaintiffs having brought before

Table I

Competencies That Should Be Taught To All Elementary Teacher Education Students

COMPETENCY (Each teacher should be taught how to . . .)	SOURCE			
	Berliner & Tikunoff (1976)	Gage (1978)	Medley (1982)	Rosenshine (1976)
1. be direct and business-like and spend a minimum amount of time in classroom management and maintaining discipline	X	X	X	X
2. give more praise and fewer rebukes to students	X	X	X	X
3. spend more time supervising and directing student work	X	X	X	X
4. ask most of the questions and have them be low-cognitive rather than high-cognitive	X	X	X	X
5. clearly communicate instructional goals to pupils	X	X	X	X
6. communicate to pupils teacher awareness of their behavior	X	X	X	X
7. prepare assignments that are interesting, worthwhile and do-able	X	X	X	X
8. conduct effective "drill" activities	X	X	X	X
9. spend more time in large-group, teacher directed academic activities	X		X	X
10. elicit answers from students who think they do not know them	X	X		
11. avoid soliciting and amplifying on student-initiated questions or answers			X	

courts novel application of duty, breach, and harm. Though it is customary in the law to eschew overly creative claims, the reminder of Prosser is worthy of careful thought:

> The law of torts is anything but static, and the limits of its development are never set. When it becomes clear that the plaintiff's interests are entitled to legal protection against the conduct of the defendant, the mere fact that the claim is novel will not of itself operate as a bar to a remedy. (1971, note 25, section 1, pp. 3-4) ✓

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Public School Law

Teachers' and Students' Rights

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2

Terms and Conditions of Employment

As noted in Chapter 1, the control of public education resides with the states. This control is exclusive as long as the constitutional rights of individuals are respected. The judiciary has clearly recognized the plenary power of the state legislature in establishing, conducting, and regulating all public education functions. The legislature, through statutory law, establishes the parameters within which the educational system operates; the actual administration of the school systems is delegated to state boards of education, state departments of education, and local boards of education. These agencies promulgate rules and regulations pursuant to legislative policy for the operation of the public schools.

Among the areas affected by these state statutory and regulatory provisions are the terms and conditions of a teacher's employment. In this chapter, state requirements for teacher certification, employment, contracts, tenure, and related conditions of employment are discussed.

CERTIFICATION

To qualify for a teaching position in public schools, all prospective teachers must acquire a valid certificate or license. Certification is a state responsibility, and certificates are issued according to the statutory provisions of each state. Although the responsibility for licensing resides with the legislature, administration of the process has been delegated to state boards of education and state departments of education. It is recognized that states have not only the right but also the duty to establish certain minimum qualifications and to ensure that teachers meet these standards.[1]

Certificates are granted primarily on the basis of professional preparation. In most states, educational requirements include a college degree, with minimum credit hours or courses identified in various curricular areas. In addition to professional preparation, other prerequisites to certification may include good personal character, a specified age, United States citizenship, signing of a loyalty oath, and passage of an academic examination. The following is a representative statutory requirement.

> The Department of Public Instruction shall have the power, and its duty shall be—
>
> (a) To provide for and to regulate the certificates and the registration of persons qualified to teach in such schools;
>
> (b) To certify as qualified to practice the art of teaching in such schools any applicant eighteen (18) years of age, of good moral character, not addicted to the use of intoxicating liquor or narcotic drugs and who has graduated from a college, university or institution of learning approved as herein provided, and who has completed such professional preparation for teaching as may be prescribed by the State Board of Education, and to register such person upon such proof as the State Board of Education may require that such applicant possess such qualifications.[2]

As noted in the above statutory requirement, an applicant for teacher certification may be required to possess "good moral character." The definition of what constitutes good character is often elusive, with a number of factors entering into the determination. The Supreme Court of Oregon found that evidence of burglary eight years prior to application for a teaching certificate was pertinent in assessing character for certification purposes.[3] The Oregon court noted that character embraced all "qualities and deficiencies regarding traits of personality, behavior, integrity, temperament, consideration, sportsmanship, altruism, etc."[4] Courts generally will not rule on the wisdom of a certifying agency's assessment of character; they will intervene only if statutory or constitutional rights are abridged.

Certification of teachers by examination was common prior to the expansion of teacher education programs in colleges and universities. However, until recently only a few states (Mississippi, North Carolina, South Carolina, and West Virginia) required passage of an exam for certification. These states have employed the National Teachers Examination, and its use has been upheld by the United States Supreme Court as constitutionally permissible even though the test has been shown to disproportionately disqualify black applicants.[5] With the recent advent of teacher competency tests in six additional states, there seems to be a trend toward the reinstatement of examinations as a prerequisite to certification.[6]

The signing of a loyalty oath often is included as a condition of obtaining a teaching certificate, but such oaths cannot be used to restrict associational rights guaranteed under the Constitution. The Supreme Court has invalidated oaths that require teacher applicants to swear that they are not members of subversive organizations[7]; however, teachers can be required to sign an oath pledging support for the United States Constitution and an individual state's constitution.[8]

As a condition of certification, a teacher may be required to be a citizen of the United States. In 1979, the Supreme Court addressed the question of whether use of such a requirement in New York violated the equal protection clause of the fourteenth amendment.[9] Under the New York education laws, a teacher who is eligible for citizenship but refuses to apply for naturalization cannot be certified. Although the Supreme Court has placed restrictions on the states' ability to exclude aliens from governmental employment, it has recognized that certain functions are "so bound up with the operation of the state as a governmental entity as to permit the exclusion from those functions of all persons who have not become part of the process of self-government." [10] Following this principle, the Court held that teaching is an integral "governmental function"; thus, a state must show only a rational relationship between a citizenship requirement and a legitimate state interest. Accordingly, the Court concluded that New York's interest in furthering its educational goals justified the citizenship stipulation for teachers.

A teacher who has met all of the legal qualifications for certification must be issued a certificate. This certificate to teach is a license, and not an absolute right to acquire a position. Hence, the legislature may impose new or additional burdens on the teacher.[11] The certifying agency, however, may not place restrictions on licensing that violate statutory provisions. A New York appellate court held that the denial of a teaching license to one classified as legally blind was "arbitrary, capricious, and contrary" to law.[12]

Certification indicates only that a teacher has met minimum qualification requirements of the state. It does not entitle an individual to employment in a particular district or guarantee employment in the state,[13] nor does it prevent a local school board from requiring additional qualifications or conditions for employment.[14] However, if a local board imposes minimum standards for employment, such as the completion of a master's degree, the requirements must be uniformly applied to all teachers in the district.[15]

Teaching credentials must be in proper order to ensure full employment rights. Where a state law required a teacher's certificate to be on file in the district of employment, the failure to file the certificate rendered the teacher's contract voidable.[16] Similarly, lack of proper credentials can invalidate a claim for compensation.[17] Teaching services provided without certification are viewed by courts as voluntary and, as such, require no compensation.

The state is empowered not only to certify teachers but also to revoke certification. Although a local board may initiate charges against a teacher, only the state can revoke a teacher's certificate. Revocation of a certificate is an extreme action. In most states, it must be based on statutory cause, with full procedural rights provided to the teacher.[18] The most frequently cited causes for revoking certification are immorality (31 states), incompetency (24 states), contract violation (22 states), and neglect of duty (21 states).[19]

When revocation of a certificate is being considered, determination of a teacher's competency encompasses not only classroom performance but also actions outside of the school setting that may impair the teacher's effectiveness. The California Supreme Court found that a teacher's participation in a "swingers" club and disguised appearance on television discussing nonconventional sexual behavior justified revocation of certification on grounds of unfitness to teach.[20] In an earlier case, however, the California Supreme Court held that an isolated incident of private homosexuality did not justify license revocation; no relationship was shown between the teacher's activity and effectiveness to teach.[21] Similarly, a California appellate court concluded that arrest and conviction for possession of marijuana was insufficient to justify revocation of a teacher's certificate, because there was no evidence that the incident had an adverse effect on students or teachers.[22]

NOTES

1. *See* Georgia Ass'n of Educators v. Nix, 407 F. Supp. 1102 (D. Ga. 1976).
2. Pa. Stat. Ann. 24 § 1225.
3. Bay v. State Bd. of Educ., 378 P.2d 558 (Ore. 1963).
4. *Id.* at 561.
5. *See* United States v. South Carolina, National Educ. Ass'n v. South Carolina, 445 F. Supp. 1094 (D. S.C. 1977), *aff'd*, 434 U.S. 1026 (1978), text with note 10, Chapter 4.
6. *ASCD News Exchange*, Vol. 21, No. 5, September 1979, p. 8. States with competency tests for teachers include Louisiana, Florida, Virginia, Georgia, Tennessee, and Arkansas.
7. Keyishian v. Board of Educ., 385 U.S. 589 (1967). *See* text with note 65, Chapter 3.
8. *See* Ohlson v. Phillips, 397 U.S. 317 (1970).
9. Ambach v. Norwick, 441 U.S. 68 (1979).
10. *Id.* at 73–74.
11. *See* Hodge v. Stegall, 242 P.2d 720 (Okla. 1952).
12. Chavich v. Board of Examiners of Bd. of Educ., 252 N.Y.S.2d 718, 723 (Sup. Ct., Kings County, 1964). *See* text with note 111, Chapter 4.
13. *See* Richards v. Board of Educ. of Township High School Dist. No. 201, 171 N.E.2d 37 (Ill. 1960).
14. *See* Wardwell v. Board of Educ. of the City School Dist. of Cincinnati, 529 F.2d 625 (6th Cir. 1976).
15. *See* Moore v. Board of Educ. of Chidester School Dist. No. 59, 448 F.2d 709 (8th Cir. 1971).
16. Johnson v. School Dist. No. 3 Clay County, 96 N.W.2d 623 (Neb. 1959).
17. *See* Floyd County Bd. of Educ. v. Slone, 307 S.W.2d 912 (Ky. 1957).
18. *See* Greenwald v. Community School Bd. No. 27, 329 N.Y.S.2d 203 (Sup. Ct., Queens County, 1972); Stone v. Fritts, 82 N.E. 792 (Ind. 1907). *See* text with note 7, Chapter 5, for details of procedural due process.
19. Floyd G. Delon, *Legal Controls on Teacher Conduct: Teacher Discipline* (Topeka, Kan.: National Organization on Legal Problems in Education, 1977), p. 8.
20. Pettit v. State Bd. of Educ., 513 P.2d 889 (Cal. 1973).
21. Morrison v. State Bd. of Educ., 461 P.2d 375 (Cal. 1969).
22. Comings v. State Bd. of Educ., 100 Cal. Rptr. 73 (Cal. App. 1972).

LEGAL ISSUES IN TEACHER PREPARATION AND CERTIFICATION

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III

THE ROLE OF THE COURTS
AND TEACHER CERTIFICATION

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CRITICISMS OF EXISTING CERTIFICATION LAWS

Critics charge that existing teacher certification practices fail in a variety of ways to perform their most basic function, that of ensuring that all teachers employed by the public schools are personally fit and professionally competent. Reference has already been made to some specific criticisms. Although by no means exhaustive, the following list illustrates the nature and range of the charges:

1. Criteria for certification, including course completion requirements, program approval standards, and written examination, bear only a tenuous relationship to the skills and personal qualities which make for effective teaching.

2. Insofar as states rely on program approval and course completion, their focus is mistakenly shifted from evaluation of the qualifications of the individual prospective teacher to evaluation of the teacher education program.

3. Although teacher effectiveness can really be evaluated only after the prospective teacher has actually begun teaching, most certification laws, even those that provide for renewable rather than lifetime certification or for a sequence of certificates, do not provide for any meaningful evaluation of teachers after initial certification.

4. Certification requirements are rigid and stereotyped. They are not sensitive to varying local needs, especially the needs of racial, ethnic, and cultural minorities, and tend to exclude or at least discourage individuals capable of responding to those special needs. Efforts to facilitate interstate reciprocity of certification by establishing national standards for teacher education program approval have tended to increase the rigidity of certification requirements and have thereby compounded the problem.

5. Present trends toward vesting control of certification mechanisms in professional associations and toward increasing academic preparation requirements do not address the problem of ensuring teacher quality.

Assessment of the validity of these criticisms is beyond the scope of this paper. We shall assume, for purposes of our analysis of possible legal challenges, that they are at least in part valid; so assuming, we shall consider the prospects for court-ordered structural reform in response to such charges.

CHALLENGES TO THE RATIONALITY OF CERTIFICATION REQUIREMENTS

Many of the criticisms of existing teacher certification statutes can be characterized as charges that those laws are in some sense irrational: that they are ill-adapted to the function which they purportedly perform, that they impose requirements that have no necessary connection with teacher fitness or competence, and that they cease evaluating at just the point when meaningful evaluation becomes possible. Traditionally, courts have entertained such charges in the form of allegations of violation of the Due Process and Equal Protection clauses of the Fourteenth Amendment to the U.S. Constitution, which declare in pertinent part: ". . . nor shall any state deprive any person of life, liberty, or property without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."[16]

SUBSTANTIVE DUE PROCESS

Although the term "due process," on its face, would seem to call only for procedural fairness,[17] in the last decades of the nineteenth century the U.S. Supreme Court began construing it to require also some degree of rationality in the substance of state laws under review. The court held that there must be some "real and substantial relationship" to permissible state purposes and, in a series of notorious cases, applied this doctrine of "substantive due process" to strike down a wide variety of state regulatory laws.[18] The expansion of the doctrine of substantive due process came to an abrupt halt in 1937. Retreating in the face of scholarly criticism and political pressure, the Court relaxed the standard of review, requiring the parties challenging state statutes as violative of substantive due process to prove that there was no conceivable rational relationship between the law in question and some legitimate state purpose.[19] This remains the prevailing federal constitutional standard; and, outside the realm of civil rights and civil liberties, virtually no state law has been stricken down by the Supreme Court as violative of substantive due process in recent years.[20]

Prior to 1937, the Supreme Court did overturn a number of occupational licensing statutes as violative of substantive due process, particularly those involving occupations that it deemed basically commercial in character.[21] Even in the heyday of substantive due process, however, the Court took a much more tolerant view of state efforts to license and regulate occupations directly connected with the public health or welfare. The leading decision of the period was Dent v. West Virginia,[22] a case upholding the licensure of doctors. The Court there declared:

> The power of the state to provide for the general welfare of its people authorizes it to prescribe all such regulations as in its judgment will secure or tend to secure them against the consequences of ignorance and incapacity, as well as of deception and fraud. As one means to this end it has been the practice of different states, from time immemorial, to exact in many pursuits a certain degree of skill and learning upon which the community may confidently rely; their possession being generally ascertained upon an examination of parties by competent persons, or inferred from a certificate to them in the form of a diploma or license from an institution established for instruction on the subjects, scientific and otherwise, with which such pursuits have to deal. The nature and extent of the qualifications required must depend primarily upon the judgment of

> the state as to their necessity. If they are appropriate to the calling or profession, and attainable by reasonable study or application, no objection to their validity can be raised because of their stringency or difficulty. It is only when they have no relation to such calling or profession, or are unattainable by such reasonable study and application, that they can operate to deprive one of his right to pursue a lawful vocation.[23]

In the post-1937 period, the standard of review has become even more relaxed than that stated in the Dent case;[24] although in one signal case, Schware v. Board of Bar Examiners,[25] the Court concluded that no rational connection, however tenuous, could be drawn between incidents in the candidate's personal life, on which the state had based its denial of a license to practice law, and his fitness or capacity for the practice of law, and therefore the Court overturned the state's decision as violative of substantive due process.

Even under the present relaxed standard of review, some successful challenges to existing teacher certification laws are conceivable. For example, following the Schware decision courts have become more receptive to the claim that an individual's private morality has no rational connection to fitness or capacity to teach and is therefore not a constitutionally acceptable ground for denying a teaching certificate.[26] While an analogous claim might be made that completion of certain course requirements has no discernible impact on teacher quality and, consequently, to condition receipt of a teaching certificate on completion of those courses is also violative of substantive due process under the Fourteenth Amendment, this type of claim appears unlikely to prevail at the present time. Absent a dramatic showing of irrelevance, even the speculative judgment of the legislature or state education officials as to what preparation teachers need is likely to provide sufficient rational connection to satisfy the requirements of substantive due process. Litigants who have attacked specific course requirements on those grounds have thus far been unsuccessful.[27]

EQUAL PROTECTION

The focus of the Equal Protection clause is somewhat narrower than that of substantive due process. It is particularly concerned with the reasonableness of legislative and administrative classifications. While the early history of the Equal Protection clause to some degree parallels that of substantive due process--steady expansion of its application as a tool for federal judicial intervention into state economic and social legislation brought to an abrupt end in 1937--its more recent history is different because it became one of the chief vehicles of the Warren Court for protecting the rights of minorities and the poor. Its current status is, therefore, far more complex.[28] At present, the Supreme Court applies a two-tiered standard of review to state laws challenged as violative of the Equal Protection clause. If the classification involves "invidious" criteria--such as race, religion, national origin, or alienage--or impinges upon "fundamental rights," the Court applies a standard of "strict scrutiny" and will uphold the classification only if the state can demonstrate a "compelling interest" justifying the classification. In all other cases, the party attacking the classification can prevail only if it proves that there is no conceivable rational relationship between the classification and any legitimate state purpose.[29]

Before proceeding to an analysis of the application of this standard of review to issues concerning teacher certification, two points should be noted. First, the future of the two-tiered standard is itself uncertain. It has been criticized both from within the Court and from outside the Court as simplistic, mechanical, illogical, and unworkable.[30] While the Court has thus far declined all opportunities to abandon the two-tiered standard completely in favor of some more flexible test, it has in fact developed an intermediate standard of review where classifications based upon sex[31] and illegitimacy[32] are at issue. It is not inconceivable that the entire analytic structure that has accreted over the past ten years might soon topple. Second, although the standard employed at the lower tier, the "rational relationship" test, is linguistically similar to the standard of review under the Due Process clause, in practice the courts, including the U.S. Supreme Court, are much more ready to find an absence of rationality under the Equal Protection clause than they are under the Due Process clause.[33]

The landmark decision of *Brown* v. *Board of Education*,[34] striking down school desegregation, left a lingering impression that education would be deemed a "fundamental right" for purposes of analysis under the Equal Protection clause when an appropriate case presented itself to the Supreme Court.[35] Had that happened, a number of routes of attack upon existing teacher certification laws might have opened. Prospective teachers who failed to meet certification requirements might, for example, have challenged those requirements as lacking any rational relationship to teacher competence or fitness.[36] If, in a state utilizing a program approval approach, the standards failed to discriminate between demonstrably effective teacher education programs and demonstrably ineffective ones, public school students facing graduates of ineffective programs might have challenged the rationality of those program approval standards.[37] Indeed, given the logical persuasiveness of CBTE requirements and of certification based on actual evaluation of teacher competencies, and the generally scanty empirical validations of other types of teacher certification requirements, suit might have successfully been brought on equal protection grounds either by students or by prospective teachers to compel the implementation of such CBTE program approval standards or competency-based certification. Crucial to plaintiff's arguments in any of these lawsuits would have been the claim that education is a fundamental right and that any classification that impinges on the quality of education must be subjected to strict judicial scrutiny.

However, in *San Antonio Independent School District* v. *Rodriguez*,[38] the case upholding the Texas school finance system against allegations of violation of equal protection, the Supreme Court limited the list of fundamental rights to those "explicitly or implicitly guaranteed" in the federal constitution. Conceding the social importance of education, it nevertheless concluded that it was not such a "fundamental right."[39] The majority opinion in *Rodriguez* makes it very clear that the Court was strongly influenced in its conclusion by the fear that a contrary decision would create what it called "an unprecedented upheaval in public education,"[40] that is, a cascade of judicial decisions applying strict scrutiny under the Equal Protection clause to strike down a whole range of practices in the administration of public education, including teacher certification.

Hence, absent a showing that "invidious" criteria are involved,[41] litigation under the Equal Protection clause attacking the reasonableness of classifications made by teacher certification laws must focus on whether those classifications can be justified under the "rational relationship" standard. The prospects and difficulties of successful challenges on this basis are illuminated by a series of cases in the Fifth Circuit Court of Appeals.

The first of those cases is Armstead v. Starkville Municipal Separate School District.[42] Plaintiffs in this litigation alleged that the school district's policy of requiring teachers to achieve a certain aggregate score on the Graduate Record Examination (GRE) as a condition for hiring or retention had a racially disproportionate impact and was, therefore, unconstitutional as racially discriminatory. The Court of Appeals, noting that the GRE was not designed to predict teacher competence and that the school district had no evidence validating the cutoff point it had selected, held that the policy was irrational and violated the Equal Protection clause, regardless of whether it had a racially disproportionate impact or not.[43] Significantly, however, the court did not strike down the provision of the school policy which permitted teachers to offer a master's degree or a Mississippi AA teaching certificate (which requires a master's degree in lieu of the required GRE score, even though the only locally accessible graduate school required a higher minimum GRE for admission to its master's degree program than the public school district itself required.[44] It would appear that, in the absence of proof to the contrary, the court was prepared to accept the defendant's claim that acquisition of a master's degree was rationally related to teacher competence.

The limited reach of the Armstead rationale was demonstrated in Tyler v. Vickery,[45] a case challenging the constitutionality of the Georgia bar examination. After rejecting claims that the examination was racially discriminatory, the court proceeded to evaluate the examination under the "rational relationship" standard. Adopting the Armstead analysis, it first considered whether the test was designed to measure the competence of prospective lawyers. It concluded that both the essay portion of the test and the Multistate Bar Examination portion, a multiple choice test constructed by the Educational Testing Service (ETS), were designed for that function. It then considered whether the cutoff points had been validated. On this issue, it concluded that, even though the chosen cutoff score had no empirically demonstrated significance, the fact that it represented "the examiners' considered judgments as to 'minimum competence required to practice law'" was sufficient validation.[46] The court also rejected plaintiffs' claim that the bar examination did not evaluate the full range of skills needed to practice law.

These cases suggest that where a particular criterion for teacher certification can be shown to be totally unrelated to teacher competence, it may be held to be violative of the Equal Protection clause. Mere absence of validation of job-relatedness will not suffice, however. The type of case in which this legal standard will permit successful challenge to certification criteria is exemplified by Georgia Association of Educators, Inc., v. Nix.[47] There the court struck down the requirement of achievement of a particular score on the National Teachers Examination (NTE) as a criterion for granting a six-year certificate, an advanced certificate available to teachers with at least three years of prior teaching experience. The court relied heavily on testimony of ETS experts to the effect that (a) the NTE was not designed to measure the competence of inservice teachers but only the academic preparation of prospective teachers, and (b) that the cutoff score chosen by Georgia was not validated for such a purpose. This legal standard, if adopted by other circuits, obviously opens some possibilities for successful challenges to teacher certification laws under the Equal Protection clause, but only in a very limited and atypical class of cases. It would not, for example, permit a generalized attack on the lack of job-relatedness of course completion requirements or program approval standards.

Although it is litigation in the federal courts under provisions of the federal constitution that receives the most attention, nearly all state constitutions also contain due process and equal protection clauses similar to those contained in the Fourteenth Amendment.[48]

While most state courts have in the past interpreted their state constitutional provisions to be coterminous with analogous federal constitutional provisions, they need not do so, and there are sound reasons that they might choose not to.[49] The relaxed standard of review adopted by the federal courts in cases involving attacks on state law under the Due Process and Equal Protection clauses has a dual rationale. First, it is related to the doctrine of separation of powers, for it requires that the judiciary pay deference to the policy judgments of coordinate branches of government except in the clearest cases of violation of constitutional law.[50] Second, it is related to the American system of federalism, for it requires the federal government to pay deference to policy judgments of the states. State courts construing state constitutions are not constrained by considerations of federalism and may not feel as constrained by considerations of separation of powers as the federal courts.[51]

As a result, many state courts apply a more vigorous standard of rationality in substantive due process cases under state due process clauses.[52] Some states have also rejected the two-tiered standard in interpreting their state equal protection clauses.[53] There is a small but discernible trend among state courts, stimulated by disaffection with the decisions of the Burger Court and urged on by liberal reformers (including a justice of the U.S. Supreme Court), not to follow slavishly the decisions of the federal courts construing the federal constitution when interpreting provisions of their own state constitution.[54]

Even where state courts do interpret state constitutions in accordance with analogous federal constitutional provisions, the outcome need not be the same. For example, in *Horton* v. *Meskill*,[55] a *Rodriguez*-type school finance case filed in the Connecticut state courts, the Superior Court carefully followed the *Rodriguez* analysis of the Equal Protection clause in construing the Connecticut equal protection provision, including the Supreme Court's definition of a "fundamental right." Unlike the federal constitution, however, the Connecticut state constitution expressly provides for the establishment of a system of public schools; the court, therefore, concluded that in construing the state equal protection clause, education must be deemed a "fundamental right," triggering strict scrutiny. As a result, the court, even though it followed the reasoning of the U.S. Supreme Court in the *Rodriguez* case to the letter, felt obliged to reach a diametrically opposed conclusion and declared the Connecticut school finance statute unconstitutional. Since clauses dealing with education are common in state constitutions,[56] the routes of attack against existing teacher certification laws under the federal Equal Protection clause that were foreclosed by *Rodriguez* may still be available in the state courts under state equal protection provisions.

16 *U.S. Const*. amend. XIV, Sec. 1.

17 Applications of principles of procedural due process are discussed on pp.131 ff.

18 The earliest case adopting this interpretation of the Due Process Clause was *Mugler* v. *Kansas*, 123 U.S. 623 (1887). The most notorious was *Lochner* v. *New York*, 198 U.S. (1905), striking down maximum hours legislation.

19 The watershed case was *West Coast Hotel Co*. v. *Parrish*, 300 U.S. 379 (1937).

20 See, for example, *North Dakota State Board of Pharmacy* v. *Snyder's Drug Stores*, 414 U.S. 156 (1973); *Ferguson* v. *Skrupa*, 372 U.S. 726 (1963).

21 *New State Ice Co*. v. *Lieberman*, 285 U.S. 262 (1931) (ice dealers); *Louis K. Liggett Co*. v. *Baldridge*, 279 U.S. 105 (1928) (owners of pharmacies).

22 129 U.S. 114 (1881).

23 *Ibid*., pp. 114-15.

24 See cases cited in note 21.

25 353 U.S. 732 (1957).

26 For example, *Erb* v. *Iowa State Board of Public Instruction*, 216 N.W. 2d 339 (Iowa Sup. Ct. 1974) (adultery); *Morrison* v. *State Bd. of Education*, 1 Cal. 3d 214, 461 P.2d 375 (1969) (private homosexual conduct). These decisions reject the view that a teacher is an exemplar for his or her students and so must in every way be above reproach. Other courts faced with similar situations have found the "exemplar" analysis sufficiently rational to withstand constitutional attack. See, for example, *Pettit* v. *State Bd. of Education*, 10 Cal. 3d 249, 513 P.2d 889 (1973) (self-declared "swinger"); *Anonymous* v. *Bd. of Examiners of New York City*, 65 Misc. 2d 581,318 N.Y.S. 2d 163 (Sup. Ct., Spec. Term 1970) (participation in methadone maintenance program).

27 *Guthrie* v. *Taylor*, 279 N.C. 703, 185 S.E. 2d 193 (1971); *Turetsky* v. *Allen*, 59 Misc. 2d 845, 301 N.Y.S. 2d 890 (Sup. Ct., Spec. Term 1968). But compare *Berger* v. *Bd. of Psychologist Examiners*, 521 F. 2d 1056 (D.C. Cir. 1975) discussed on pp. 131 ff.

28 See, generally: "Developments--Equal Protection," *Harvard Law Review* 82: 1065; 1969.

29 The most explicit statement of the two-tiered standard is contained in *San Antonio Independent School District* v. *Rodriguez*, 411 U.S. 1, 17 (1973) (Marshall, J., dissenting).

30 See, for example: *Ibid*., pp. 98-110; and G. Gunther. "The Supreme Court, 1971 Term--Foreword: In Search of an Evolving Doctrine on a Changing Court: A Model for Newer Equal Protection," *Harvard Law Review* 86 (1): 1; 1972.

31 Craig v. Boren, 97 S. Ct. 451 (1976).

32 Compare Mathews v. Lucas, 96 S. Ct. 2755 (1976) with Jimenez v. Weinberger, 417 U.S. 628 (1974). These cases bracket some standard of review less demanding than the strictest scrutiny but more demanding than mere rational relationship.

33 See, for example. United States Dep't of Agriculture v. Moreno, 413 U.S. 528 (1973); James v. Strange, 407 U.S. 128 (1972).

34 347 U.S. 483 (1954).

35 The Court declared: "Today, education is perhaps the most important function of state and local governments. Compulsory school attendance laws and the great expenditures for education both demonstrate our recognition of the importance of education to our democratic society. It is required in the performance of our most basic public responsibilities, even service in the armed forces. It is the very foundation of good citizenship. Today it is a principal instrument in awakening the child to cultural values, in preparing him for later professional training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity, where the state has undertaken to provide it, is a right which must be made available to all on equal terms" (Ibid., p. 403).

36 It should be noted that this involves a claim of improper discrimination between classes of prospective teachers (that is, between those who can meet the certification criteria and those who cannot) which is alleged to be unconstitutional because of its impact on the fundamental rights of students. It is not self-evident that teachers would have been permitted to assert the rights of students in this fashion. A suggestive analogy, however, might have been drawn to cases involving qualifications for elective public office. There is no fundamental right to hold or run for public office; there is a fundamental right to vote. The Supreme Court has applied strict judicial scrutiny to state statutes placing limits on who may seek elective office where it could be shown that those limits had an impact on the voters' right to cast a meaningful vote. See, for example, Bullock v. Carter, 405 U.S. 134 (1972).

37 An analogous problem was considered in Hunnicutt v. Burge, 356 F. Supp. 1227 (M.D. Ga. 1973). There the court found that a historically black teacher college which had traditionally sent its graduates to black public schools provided a much poorer education than other colleges in Georgia's state teacher college system. Declaring that this violated the rights of the students whom the graduates of the college would teach, the court ordered the state to equalize the quality of the colleges. The racial nexus, however, was obviously crucial to this outcome.

38 411 U.S. 1 (1973).

39 *Ibid*., pp. 31-39.

40 *Ibid*., p. 56.

41 Recent decisions have, for example, stricken down professional licensure laws that discriminated on the basis of alienage or national origin: *Examining Bd. of Engineers* v. *Flores de Otero*, 96 S. Ct. 2204 (1976) (civil engineers); *In re Griffiths*, 413 U.S. 717 (1973) (lawyers). The critical importance in litigation under the Equal Protection clause of inducing the courts to apply "strict scrutiny" rather than the "rational relationship test" may be seen by comparing these cases with *New Orleans* v. *Dukes*, 96 S. Ct. 2513 (1976) (street vendors) and *Williamson Lee Optical Co*., 348 U.S. 483 (1955) (opticians), cases in which the Court applied the rational relationship test and upheld the licensure statute. *Dukes* is an especially remarkable case because, despite the fact that the undisguised intent of New Orleans was to give a single vendor a monopoly in the Vieux Carre section, the Court was prepared to hunt for an acceptable rationale, real or imaginary.

Possible challenges to teacher certification laws as embodying "invidious" classifications are discussed in greater detail in the text.

42 461 F. 2d 276 (5th Cir. 1972).

43 *Ibid*., p. 279.

44 *Ibid*., p. 280.

45 517 F. 2d 1089 (5th Cir. 1975), *cert*. *denied*, 96 S. Ct. 2660 (1976).

46 *Ibid*., p. 1102. *Vickery* was followed, without detailed discussion, in a later case upholding the Alabama bar examination. *Parrish* v. *Bd. of Comm'rs of Alabama State Bar*, 533 F. 2d 942 (5th Cir. 1976). *Accord*, *Richardson* v. *McFadden*, 540 F. 2d 744 (4th Cir. 1970).

47 407 F. Supp. 1102 (N.D. Ga. 1976).

48 State constitutional provisions analogous to the Due Process and Equal Protection clauses are canvassed and analyzed in "Note, Toward an Activist Role for State Bills of Rights," *Harvard Civil Rights--Civil Liberties Law Review* 8 (3): 271; 1971. But compare: H. Linde. "Without Due Process: Unconstitutional Law in Oregon," *Oregon Law Review* 49 (2): 125; 1970.

49 This point has on occasion been expressly noted by the U.S. Supreme Court itself; for example, *Oregon* v. *Haas*, 95 S. Ct. 1215, 1219 (1975).

50 In most states, the task of formulating criteria for teacher certification has been delegated by the state legislature to the state board of education or some other administrative agency. While the federal courts have in the past accorded policy judgments of administrative bodies the same degree of deference as those of legislatures, there are some signs that this is changing. See, for example, *General Electric Co*. v. *Gilbert*, 97 S. Ct. 401 (1976); *Hampton* v. *Mow Sun Wong*, 96 S. Ct. 1895 (1976).

51 The New Jersey Supreme Court relied upon this analysis in choosing not to follow the Rodriguez decision in interpreting its own analogue of the Equal Protection clause: Robinson v. Cahill, 62 N.J. 473, 303 A. 2d 273, cert. denied, 414 U.S. 976 (1973).

52 See, for example, "Comment, Substantive Due Process in the States Revisited," Ohio State Law Review 18 (3): 384; 1958; and Morrad G. Paulson. "The Persistence of Substantive Due Process in the States," Minnesota Law Review 34 (2): 91; 1950.

53 For example, Isakson v. Rickery, 550 P. 2d 359 (Alaska Sup. Ct. 1976); Robinson v. Cahill, op. cit.

54 See, for example, Michigan v. Mosely, 96 S. Ct. 321, 334 (1975) (Brennan, J., dissenting); W. Brennan. "State Constitutions and the Protection of Individual Rights," Harvard Law Review 90 (3): 489, 499-501; 1977 (citing cases).

55 31 Conn. Super. 377, 332 A. 2d 813 (1974).

56 U.S. Office of Education, Department of Health, Education, and Welfare. State Constitutional Provisions and Selected Legal Materials Relating to Public School Finance. Washington, D.C.: U.S. Government Printing Office, 1973. pp. 4-7.

READING ABILITY AS A CRITERION FOR SCREENING TEACHER EDUCATION APPLICANTS: A LEGAL PERSPECTIVE

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Citizen disenchantment with public schools and the oversupply of certified teachers have added momentum to the escalating accountability movement in public education. Part of this accountability thrust has focused on screening procedures to assure that the personnel being certified to teach are actually competent to fulfill their professional duties.

Illustrative of the growing concern over quality controls in teacher preparation is the *Concurring Resolution* passed in North Carolina in September 1978. This joint resolution of the State Board of Education and the University of North Carolina supports a "systematic, continuous and extended approach to quality assurance in the initial programs of (teacher) preparation. . . ."(1) Thus, North Carolina has become the first state to establish a program of quality assurance beginning with admission to an institution of higher education and extending through the preservice program and professional service of each individual. Among other stipulations, the adopted resolution mandates the development and implementation of a pre-teacher education screening procedure examining the basic skills required of all teachers.

The intent of the North Carolina program is to move away from total reliance on an exam administered *after* completion of the teacher program as the sole quality control standard. The National Teachers Examinations (NTE) are currently used in North Carolina as a prerequisite to certification, but these exams are administered apart from any institutional assessment. By substituting exams that are administered prior to an individual's entry into teacher education, students can be made aware of deficiencies so they can either address their weaknesses (if they elect to enter the program) or redirect themselves before they have made a large investment of time, energy and money. The North Carolina framers of the resolution assert that this is a much more humane and realistic approach to screening teaching candi-

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dates.(2) The framers also defend the use of standardized academic proficiency tests, not because such tests cover all qualities necessary to ensure that teachers are competent, but because a teacher cannot teach that which the teacher does not know. Hence, evidence of a deficient academic background is felt to indicate subsequent failure in teaching.

Although North Carolina is the only state that has instituted a statewide program to date, many teacher education programs are moving toward some type of selective admissions procedures. These procedures range from tests of competence in oral and written communication to committee assessments using multiple criteria for each teacher education applicant. In a 1977 study, it was reported that there was a mild trend toward instituting selective admissions practices in teacher training institutions or increasing the requirements already in operation.(3)

Assuming that a preservice screening process does have merit, what types of tests should then be used? This is not a simple question because educators have not reached consensus as to the minimum academic background that is necessary for subsequent teaching success. Most would agree, however, that teachers should at least be able to read. Therefore, the screening technique proposed in this study is a reading proficiency test, measuring teacher candidates' ability to read textbook material and professional journal articles.

The Legal Context

Legal principles articulated by the United States Supreme Court must be followed in designing standards used for screening purposes; it is essential that individuals' constitutional rights are respected throughout any such process. Because of the significance of the legal principles, it seems appropriate to precede the discussion of the particular strategy used in this study with a brief overview of recent Supreme Court decisions involving the use of tests for screening applicants.

In 1971 the Court delivered a landmark decision, *Griggs v. Duke Power Company.*(4) In this decision, the Court held that selection criteria having a disproportionate impact on blacks and other minorities must be related to actual job performance in order to satisfy Title VII of the Civil Rights Act of 1964 which prohibits discrimination in employment on the basis of race, creed, national origin or sex. According to the Court majority in *Griggs*, Congress directed Title VII "to the *consequences* of employment practices, not simply the motivation."(5) Although the factual situation in *Griggs* did not involve a teacher preparation program, the implications were clear: Any criteria used to screen preservice teachers must be related to characteristics necessary for performance on the job.

Following the *Griggs* mandate, it was assumed that employers must carry the burden of proof in validating the relationship between screening measures and actual job requirements. However, the Supreme Court somewhat eroded the rigor of the *Griggs* standard in 1976 in the case of *Washington v. Davis.*(6) In this case plaintiffs were black applicants for admission to the police training program of the District of Columbia who were rejected because of their low scores on a verbal skills test (Test 21) given to all applicants. The trial record showed that four times as many blacks as whites were eliminated by the test. Hence, the appeals court concluded that plaintiffs' due process rights had been impaired because police officials failed to conform to the Title VII standard set out in *Griggs*. In essence, the appellate court found that because the verbal skills test had a disproportionate impact on blacks and was not substantiated as related to job performance, the plaintiffs' constitutional rights had been abridged.

The Supreme Court, however, reversed the holding of the court of appeals. Justice White, writing for the Supreme Court majority, declared that the appellate court erred when it equated Title VII standards and constitutional standards. While reaffirming the *Griggs* principles for statutory analysis, the Court majority in *Davis* emphatically stated that evidence of a disparate impact alone will not trigger constitutional guarantees.(7) Aggrieved individuals must also show that challenged policy is an intentional device to disadvantage a protected class in order for the United States Constitution to be abridged.

The Supreme Court majority found that the verbal skills test in *Washington v. Davis* was used for a permissible purpose—to improve police effectiveness—and without discriminatory intent. The majority concluded that the Federal Constitution and the Civil Service Act (5 U.S.C. § 3304) permitted the use of a test that predicts performance in a job training program rather than performance in the job itself. Approving the district court's holding on that point, the Court declared:

> . . . a positive relationship between the test and training course performance was sufficient to validate the former, wholly aside from its possible relationship to actual performance as a police officer . . . (This conclusion) seems to us the much more sensible construction of the job-relatedness requirement.(8)

Thus, the Supreme Court implied that evidence need not be produced to substantiate a direct relationship between the screening criteria and actual success on the job. Applying this standard to the field of education, criteria for screening preservice teachers merely must be validated as related to success in the teacher education program in order to be deemed constitutional.

One other recent legal development warrants attention in connection with the legality of employee screening procedures. In January 1978, the Supreme Court affirmed, without delivering a written opinion, a lower federal court ruling in South Carolina in which the use of a minimum score on the National Teachers Examinations was sanctioned as a prerequisite to certification and as a means of classifying teachers on the salary schedule.(9) Although the authors of the examinations testified that they should not be used for such purposes, both the lower federal court and the Supreme Court sanctioned the practices. Evidence indicated that the test score required for certification disqualified 83 percent of the black applicants compared with 17.5 percent of the white candidates. Nonetheless, the federal court relied on *Washington v. Davis* in recognizing that an official action will not be held unconstitutional solely because it results in a racially disproportionate impact.

The court found no evidence of intentional discrimination and concluded that the use of the tests was legitimate to advance the governmental goal of assuring that teachers were minimally competent. The court recognized that the state has the right to adopt academic requirements and use written achievement tests that have been designed and validated to measure the minimum amount of knowledge necessary for effective teaching. Accepting that reliance on a standardized test includes some risk of error in misevaluating specific candidates, the court concluded that the state must weigh the public interest in maintaining a competent teaching force against such risks in the decision-making process. Worthy of note is the fact that the Supreme Court majority concluded that the tests satisfied Title VII mandates since they were valid measures of skills required for teachers. Although Justice White, dissenting, claimed that at best the tests measured familiarity with the content of certain teacher training courses and not with job performance, the Court majority disagreed.

At present only North Carolina, South Carolina and Louisiana use the NTE for initial certification, and South Carolina is the only state that uses the exams to determine teacher salaries.(10) However, if other states should follow these examples, the NTE or other standardized tests may become popular criteria used to screen teacher applicants. The *Concurring Resolution* recently adopted in North Carolina is indicative of the renewed interest in and commitment to the use of academic tests to screen prospective teachers.

In light of *Washington v. Davis*, it may become increasingly difficult legally to challenge the use of such standardized tests for screening purposes because the Supreme Court has held that discriminatory intent must accompany the use of criteria with a disproportionate impact in order to abridge the Federal Constitution. However, this does not mean that schools of education and other training institutions may act haphazardly in the use of tests for screening. Care must be taken to insure that measures used for selection are not only valid and reliable but also related to success in the training program. The following research seems to support that reading ability, as measured by the cloze procedure, satisfies the foregoing requirements and those of *Davis* and *Griggs*.

The Legal Context Into Practice

Although *Griggs* and *Davis* provide the legal context, the problem for institutions desiring to use tests to screen applicants for teacher training is to identify the variables that relate to success in the training program. There is, of course, a variety of variables which might be investigated, but one which seems to be manifestly related to success in teacher training is the ability to read. Most would agree that an applicant to a teacher training program should be able to read. However, the problems associated with using reading ability as a selection criterion are:

1. How reading ability should be measured, and
2. What level of reading ability should be required.

The solutions to these two problems were explored in some detail by two of the authors (Draba and Steinkellner, 1975). The solutions embrace the use of the cloze test procedure with materials utilized in the teacher training program to measure reading ability and the use of the frustration level score on the cloze test to establish the cutpoint. In a closely related study these same authors found that reading ability (measured by the cloze procedure applied to materials used for training) relates significantly to success in the teacher training program. Specifically, applicants who scored below the frustration level did not complete the program (Steinkellner and Draba, 1979). However, the initial and follow-up study involved a small sample (N = 37) from a "commuter college." Thus the present study was undertaken to determine if the cloze test procedure would have significant validity, reliability and utility with a much larger sample from a school of education on a resident campus.

Procedure

The target population was comprised of all students enrolled in the seventeen sections of an introductory teacher education course at a large midwestern university. Over 200 students took one of four forms of a cloze test. Three forms had two passages and one form had three passages from materials typically used in teacher training courses. These forms were randomly assigned to students within each section. According to the Dale-Chall readability formula, the passages ranged in grade level difficulty from the sophomore year in high school to the senior year in college.

These forms were administered during the first few weeks of the 1978 Fall semester by the instructors of the course sections. Each instructor received training in administering the instrument. The results of the cloze test administration and the group mean SAT and GPA scores are shown in Table I. Neither mean scores nor the performance of individual students on the cloze test were shared with instructors. At the end of the course, instructors gave each student either a grade or a rank in the course. This was used in conjunction with the cumulative 1979 grade point average (GPA) of each student to assess whether reading ability as measured by a cloze test relates to successful performance in the training program.

TABLE 1
Descriptive Data for 244 Teacher Education
Students Taking Four Forms of a Cloze Test

Form	No. of Students	Mean Cloze % Correct (S.D.)	Mean SAT (S.D.)	Mean 1978 GPA (S.D.)
A	58	47.6 (10.0)	427.0 (92.7)	2.75 (.59)
B	61	48.8 (10.9)	454.2 (78.2)	2.83 (.56)
C	69	46.7 (8.3)	439.3 (89.2)	2.66 (.59)
D	56	42.6 (10.7)	437.2 (103.8)	2.76 (.54)

The Validity of the Cloze Test

The validity of the cloze test as a measure of reading ability has been explored and established in a variety of contexts. However, the cloze test is used infrequently in the context of higher education due to the availability of other measures of reading ability; hence, some exploration of the validity of the cloze test with college sophomores entering teacher training is ncessary here.

One typical method of establishing the validity of a measure is correlating the performance of a group on a recognized measure of the variable of interest (i.e., in our study, reading ability) with the performance of this same group on a proposed measure of the same variable (i.e., in our study, the cloze procedure). This was done by comparing the performance of the students on the verbal section of the

Scholastic Aptitude Test with their performance on one of the cloze test forms. Table 2 shows the results, which indicate that performance on the cloze test relates significantly to verbal performance on the SAT, a known measure of reading ability. Hence, it seems as if the cloze test provides a valid measure of reading ability in this context.

TABLE 2
Correlation of Percent Correct on a Cloze Test
with Performance in the SAT-Verbal Section for
Teacher Education Students

Form	*Correlation of Cloze and SAT Performance*	*Significance*
A	.63	.001
B	.64	.001
C	.49	.001
D	.69	.001

But, given the foregoing, one might question why the cloze test should be used when it appears that performance on the readily accessible verbal section of the SAT might be used instead to screen applicants for teacher training on the basis of reading ability. Although this is an appropriate observation, we recommend the cloze test using actual passages from training materials, because it, unlike the SAT, provides direct evidence of the applicant's ability to comprehend materials used for instruction. Use of the cloze method conforms to the spirit of *Griggs* which requires that "any test used must measure the person for the job and not the person in the abstract." Applying this logic, the SAT verbal section represents an abstract and global measure whereas the cloze test represents a concrete and specific measure of the applicant's ability to read the materials used in preparing teachers to perform their jobs.

The Reliability of the Cloze Test

Typical users of the cloze procedure identify a sample passage of approximately 250 words from some material of interest. Having identified the sample passage, the user deletes every fifth word, asks the students to fill in the missing word, counts only exact answers as correct, and then divides the number of correct responses by the total possible correct responses to obtain a percentage. Students scoring below 35 percent read at the frustration level on this passage, those at or above 35 but below 50 percent read at the instructional level and those above 50 percent read at the independent level. Generally, typical users of the cloze method rely on a single passage and do not sum the right answers over several discrete passages to obtain a single percentage. However, it seems appropriate in this context to have a sample of materials rather than a single passage. (11)

This practice raises the obvious question of reliability: do these cloze passages consistently measure the variable? The answer to this question from these data is not decisive. Table 3 shows that the correlations between passages within each form are "significant," but all do not reach the level traditional psychometrics recommend. Nonetheless, these levels imply a level of consistency between passages which makes summing over the passages seem defensible.

TABLE 3
Correlations between Performance on Passages with
Each Form of a Cloze Test for Teacher Education Students

Form	*Passage*	*Correlation*	*Significance*
A	1,2	.55	.001
B	1,2	.68	.001
C	1,2	.31	.005
	1,3	.31	.005
	2,3	.59	.001
D	1,2	.37	.003

The Utility of the Cloze Measure

Even though the cloze test may provide valid and reliable measures of reading ability, the important question is: are these measures related to success in a training program? A complete answer is not now possible because these students are still in the training program; however, a partial answer is possible.

Although these forms are not exactly equivalent (Form D is slightly more difficult than the others), we used the performance of all students on all forms and the instructor's rank given each student to construct Table 4. The frequencies observed deviate significantly from those expected under the null hypothesis ($X^2 = 27.1$, $p < .001$). This means that cloze test performance relates significantly to the judgment of teachers regarding the classroom performance of these students. It is interesting to note that only two students had frustration cloze scores and a high ranking by the instructor. Moreover, a casual examination of the frequency pattern in the frustration and independent columns makes the rank/reading relationship obvious.

TABLE 4
A Cross Tabulation of Teacher Rank and Cloze Test Performance for Teacher Education Students

	Cloze Test			
Teacher Rank	Frustration (0 - 34%)	Instruction (35 - 50%)	Independent (50 - 99%)	Total
Low	16	35	13	64
Average	10	40	39	89
High	2	36	45	83
TOTAL	28	111	97	236

Cloze test scores relate not only to performance in a single education class but also to the cumulative GPA of these students. In Table 5 the performance of all students on the cloze test is compared with the 1979 cumulative GPA for these same students.(12) The frquencies observed deviate significantly from those expected under the null hypothesis ($X^2 = 37.1$, $p < .001$). This means that cloze scores can even be used to predict cumulative GPA, which is certainly considered a measure of success in the training program.

TABLE 5
A Cross Tabulation of 1979 GPA and Cloze Test Performance for Teacher Education Students

	Cloze Test			
1979 GPA	Frustration (0 - 35%)	Instruction (35 - 50%)	Independent (50 - 99%)	Total
Low (0.0 - 2.49)	13	43	15	71
Average (2.5 - 3.29)	15	57	46	118
High (3.3 - 3.99)	1	13	40	54
TOTAL	29	113	101	243

A careful reader of tables might question the distribution of scores in the Low GPA row and the Frustration cloze score column. However, if the Low GPA row of Table 5 is broken down further, Table 6 shows that most students (87 percent) with Instruction or Independent cloze scores have GPA's between 2.0 - 2.49, or a "C" average.

TABLE 6
A Cross Tabulation of 1979 GPA and Cloze Test
Scores for Teacher Education Students with a
GPA between 0.0 and 2.49

1979 GPA	*Cloze Test* Frustration (0 - 34%)	Instruction (35 - 50%)	Independent (50 - 99%)	Total
Low Low (0.0 - 1.49)	1	2	0	3
Ave Low (1.5 - 1.99)	5	9	0	14
High Low (2.0 - 2.49)	7	32	15	54
TOTAL	13	43	15	71

Similarly, if the Frustration column of Table 5 is broken down further, there is only one student who deviates from expectations—the one with an Average GPA and a 0 - 20% Frustration score (Table 7).

TABLE 7
A Cross Tabulation of 1979 GPA and Cloze Test
Scores for Teacher Education Students with a
Cloze Score between 0 - 34%

1979 GPA	*Cloze Test* Frustration (0 - 20%)	Frustration (21 - 27%)	Frustration (28 - 34%)	Total
Low (0.0 - 2.49)	1	4	8	13
Average (2.5 - 3.29)	1	3	11	15
High (3.3 - 3.99)	-	-	1	1
TOTAL	2	7	20	29

Finally, Table 8 shows that if success in the training program is defined as the teacher's rank (low, average, or high) of a student's performance in an initial teacher education course combined with GPA performance (Low, Average or High), then a student's performance on the cloze test (Frustration, Instruction or Independent) significantly relates to success in the teacher training program (p. $<$.001).

TABLE 8
A Non-Parametric Correlation Matrix for Three Variables (1979 GPA, Teacher Rank, and Cloze Score)

	1979 GPA	Teacher Rank
1979 GPA		
Teacher Rank	.32	
Cloze Score	.37	.32

Conclusion

Although *Griggs* and *Davis* may not apply directly to a hypothetical case involving an applicant denied admission to a teacher training institution on the basis of test scores, they are important cases for they remind those institutions investigating the use of test scores for selection purposes that the scores should be at least related to success in training and possibly related to success on the job as a teacher. Hence, these cases provide a framework for selecting variables used for screening applicants and predicting applicant success in a training program.

There are many variables that should be considered; however, one variable which seems to be manifestly related to success in training is reading ability. Few would disagree with this, but some might ask: How well should an applicant be able to read? This study indicates that an applicant should be able to perform above the frustration level on cloze tests applied to training materials, because the cloze test appears to provide valid and reliable measures which relate to success in training. Applicants with scores above the frustration level have at least literal comprehension of the training materials, which is certainly a minimum expectation in our teacher education program.

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4. 401 U.S. 424 (1971).

5. 401 U.S. 432 (1971).
6. 96 S. Ct. 2040 (1976).
7. In September 1978, the *Uniform Guidelines on Employee Selection Procedures* became effective to enforce the Title VII ban on employment discrimination. The guidelines, jointly issued by four federal agencies, require employers to prove that screening tests with an adverse impact on women or minorities are job related and that alternative tests or screening methods have been investigated in order to minimize the adverse impact. See *Education Daily*, August 31, 1978; *School Law News*, November 10, 1978.
8. 96 S. Ct. 2052-53.
9. United States v. South Carolina, National Education Association v. South Carolina, 445 F. Supp. 1094 (1977), *affirmed*, 98 S. Ct. 756 (1978).
10. In Louisiana, state school officials have asserted that the NTE is designed merely to indicate that individuals have achieved a certain academic level and have at least minimal knowledge of what they intend to teach. The Louisiana Association of Educators has challenged the use of the NTE for such purposes, alleging that the reliance on a simple pencil and paper test is an invalid basis for certifying teachers. See *Education Daily*, March 13, 1979.
11. Due to test time constraints, we were able to use only two passages in three test forms and three short passages (less than 250 words) in one test form, whereas in practice we urge that at least three 250 word passages be used.
12. In Table 1, the cumulative GPA through 1978 is used, or the one prior to entering the teacher education course. In Table 5, however, the cumulative GPA through 1979 is used, or the one after finishing the teacher education course.

Assessing Minimum Competencies of Beginning Teachers: Instrumentation, Measurement Issues, Legal Concerns

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Introduction

The movement toward competency based education (CBE) and performance based certification (PBC) for public school teachers is a rapidly expanding phenomenon in American education. The CBE model and its application to pre-service and in-service teachers is growing at the same time that the majority of states have either considered or are actually implementing minimum competency testing for students.

Since 1967, when Congress passed the Education Professions Development Act which was designed to prepare and maintain an adequate supply of competent teachers, the CBE concept has rapidly expanded as a philosophical base for program development and state certification and training models. According to an early report by Schmeider (1973), more than 500 teacher education programs claimed to be competency based or were in the developmental stages of moving in that direction.

As with most "innovations" in education, the CBE model, whether applied to students, teachers, administrators, or others, is fraught with many complex issues and problems. Some of these are philosophical, some legal, some simply logistical, and others of a more traditional research, development, and measurement nature. All of these issues and problems have to be adequately addressed and resolved if the CBE movement is to become something other than an educational "fad" and if CBE is to remain a viable force in changing American education.

This paper attempts to address some of the more important issues surrounding the Georgia State Department of Education's commitment to implement the CBE/PBC model with beginning and student teachers during the 1980-1981 school year. The issues are derived from experiences in developing assessment instruments to measure minimum teaching performance on a set of competencies developed through the Teacher Assessment Project at the University of Georgia. No attempt will be made to discuss the basic assumptions, requirements, and operatives of a CBE model since excellent expositions of these can be found elsewhere (Houston and Howsam, 1972; Burke, Hansen, Houston, and Johnson, 1976).

Issues and Problems

Measurement Issues

Attempts to develop instrumentation to assess teacher performance for certification purposes like the TPAI are fraught with many measurement issues and problems. If these instruments are to be used for certification purposes, they will have to demonstrate adequate reliability and validity characteristics to withstand legal and professional challenges. The basic measurement issue centers on determining which validity and reliability characteristics are most appropriate for certification purposes, and what levels of these are sufficient to insure instrument quality and the accuracy of certification decision. The comments concerning measurement issues offered below are derived from developmental experiences with the TPAI and the Georgia legislative mandate to implement a PBC model for all beginning teachers in the fall of 1980.

Reliability: In developing an observational/performance rating system such as the TPAI, several issues are central to the concept of reliability. One issue is the degree to which such instruments should possess reliability characteristics as defined by traditional approaches (temporal stability, internal consistency, generalizability analyses) as opposed to a major emphasis on inter-rater agreement.

With the TPAI, multiple data source (trained data collector, school administrator, and peer teacher) are used to generate competency and competency indicator scores. Ratings from all three sources are combined to arrive at competency and indicator scores. An essential question concerning reliability of ratings (particularly as regards certification decisions) is: Do these data sources agree when they observe a particular teaching performance in the classroom? Since the TPAI assessment process requires classroom observation by data sources at different times, several variables (observer, teacher performance, classroom context) are potential sources of unreliability when reliability is defined as inter-rater agreement. Given the state plan to base a beginning teacher's score on multiple data source ratings for certification, should data sources be "weighted" in the decision-making process based on reliability information. Should any sources be dropped from the assessment if "unreliability" is demonstrated?

Classical test and measurement approaches suggest that adequate test-retest reliability (temporal stability) is an important aspect of any measuring device. If the purpose of the TPAI assessment is to determine whether beginning teachers can perform at a minimally acceptable level of performance, is temporal stability reliability necessary to support the use of the TPAI for certification. Is it necessary to demonstrate that TPAI assessments correlate highly over short periods of time when the state assessment for certification process depends upon combining data from two consecutive assessments conducted in the Fall and Spring of each year? The TPAI are in a sense "criterion-referenced," however, one demonstration of successful performance on a given competency is not considered reliable enough to "pass the test." Given the large number of contextual factors that can change in the classroom setting (including teacher behaviors from one assessment to the next) and the TPAI system of using multiple data sources and multiple assessments, correlations from temporal stability studies might be predictably lower than those considered acceptable for traditional paper and pencil tests. More important, perhaps, is to demonstrate the ability of rater's scores using videotaped teacher performances. Such studies do not yield complete data for the TPAI that matches an actual assessment, but they do help determine the extent to which error (unreliability) is incurred through observer/rater effects.

Validity: Many classroom process studies have been undertaken during the past 25 years, and these have become an important aspect of research on teaching. Two types of teaching process studies have seemingly evolved from such research: those concerned with describing or defining the teaching process, and those attempting to determine which teaching processes are effective in producing desired educational outcomes, such as student achievement. The latter type of research, termed process-product research (Dunkin and

Biddle, 1974), has dominated research on teaching during the past 10 to 15 years. Excellent reviews of this research can be found in other sources, and no attempt to review it will be made here. Suffice it to say that process-product research has met with mixed results, with little replication of results from one study to the next. The process-product paradigm, however, becomes an important aspect of demonstrating the validity of the TPAI and similar instruments designed to assess teaching performance for certification purposes. What kinds of validity characteristics should the TPAI and similar measures have?

Past court decisions about the legality of performance measures for employee selection, certification, and licensure have well-demonstrated the importance of content validity. Professionals in the field must agree that the items and/or factors being assessed are indeed job-relevant. Indeed, a key component of the Equal Employment Opportunity Commission guidelines under Title VII of the Civil Rights Act was the idea that any test must "measure the person for the job," not the person in the "abstract." But, is content validity enough?

The process-product paradigm and the movement toward educational accountability seemingly dictate that attempts be made to relate TPAI assessments to other important educational variables. The most important variable from an accountability perspective is, of course, pupil learning. Studies of the criterion-related validity of teacher performance instruments using student achievement as a criterion have, as mentioned above, met with mixed success and few meaningful replications. Why?

Standardized achievement test results as a pupil learning criterion present several difficulties. First, performance on such measures probably has far more in common with factors other than teacher classroom behavior. Home environment characteristics, a child's innate ability, learning experiences outside of school, etc., account for far more variance in standardized test performance than effective teaching in the classroom. Similarly, the reliability of gain scores from pre to post testing over short periods of time is suspect on such measures, and the stability of "real" gain is estimated at only .30 to .35 over a two-year period. If standardized achievement tests are used as a validation criterion for teacher performance measures, few such instruments will ever have adequate validity.

An alternative approach currently being implemented in the TAP is to use teacher-made tests over short units of instruction. Large-scale attempts are made to correlate pupil learning gains on such tests with TPAI assessments. Assessments are made on teachers at the time they are teaching content directly related to learning objectives from which test items for pupils are developed. One issue in this validation process is the potential unreliability of teacher-made tests. Content of the tests is difficult to dictate. However, attempts have been made in research with the TPAI to hold structured workshops with teachers to control the methodology by which tests are developed (e.g., test length, item type, difficulty level, etc.) (Ellett, Capie, and Johnson, 1980).

If one were to view recent court decisions concerned with the use of tests for certification, content validation is again seen as an important process for establishing legal acceptability. The recent supreme court decision which supported the use of the National Teacher Examinations as part of the teacher certification process in the State of South Carolina is a case in point. The NTE and its content was essentially validated in the state by asking key educators if the content was relevant to teaching in the public schools. With a high degree of affirmation among those surveyed and the establishment of a very minimal "cut" score, the Supreme Court upheld the use of the NTE for certification purposes, though most large scale reviews of its "job-relatedness" have met with very mixed results (e.g., see Quirk, 1973).

Unlike paper and pencil measures such as the NTE, the TPAI are, in a sense, the criteria rather than the predictor of teaching performance. Thus, content validation studies seem the necessary and sufficient process for establishing the legal basis to support the use of performance measures as part of the certification process. Establishing the predictive validity of the TPAI using school outcome variables (e.g., pupil achievement) as criteria, (while interesting from a teacher effectiveness research standpoint) does not seem necessary to insure the legality of the Georgia PBC plan. If consensus is received from "expert" judges (educators) concerning which performance, and what levels of performance should be established for initial teacher certification, this alone seems legally sufficient. Several of these investigations have already been undertaken with the TPAI (Johnson, Capie, and Ellett, 1978) and more are currently in process.

As regards the development of the TPAI and similar instruments, a final comment concerning reliability and validity seems in order from a classical measurement viewpoint. Unless these psychometric characteristics are at acceptable levels, then the case could be made that such instruments measure *more of something other than "competence" than competence itself*.

Standards Setting and "Cut-off" Scores. The determination of criterion levels of performance for initial teaching certification (minimal standards) presents possibly the most difficult measurement and decision-making problems of all. Some of the associated concerns are of a sociopolitical and practical nature rather than a statistical nature. As has been pointed out elsewhere (Hambleton, Powell, and Eignor, 1979), all methods of standards setting are in essence arbitrary. In setting standards, major issues center on how much faith should be placed in empirical (statistical) decision-making models and how much faith should be placed in informed human judgments about performance.

Two general notions underlie most of the current thinking regarding performance (as well as paper and pencil) measures. The first can be called "norm-referenced," in the sense that it represents a Bayesian approach to establishing cutoff scores (performance levels). This model is probabilistic. Given a demonstrated level of performance, what is the probability that an individual is "competent?" What is the probability that the individual is "not yet competent?" In such models, measurement error becomes an important consideration in making judgements about competence of individuals. This model has been explored in detail by Berk (1976), though it has not been widely applied to certification models for teachers. The statistical, decision-making framework can obviously lead to two important classification errors: (1) persons classified as "competent" that actually are not (an error the certifying agency might have to accept to stay on safe legal grounds with established cut-off scores, but which has possible negative implications for the education of children), and (2) persons classified as "not yet competent" that actually are (which implies denying certification to teachers possibly competent to teach).

Ideally from this model, probabilistic statements would be derived from criterion-related validity coefficients themselves. For example, given a level of assessed teacher performance, what associated yield in pupil learning might be expected. What is the minimally acceptable yield in pupil learning gain desired as a standard, and what teacher performance score (competency) has been associated with it; with what degree of certainty? Given the mixed results of process/product research during the past 15 years, it seems doubtful that measurement technology can make this "productivity function" model useful for certification decisions in the near future.

A second approach to determining cut-off scores for certification can be labelled "criterion-referenced." As used here, this approach would compare assessment data on a particular teacher to an acceptable standard of "minimal" performance established by professional educators as a group. The criteria by which competence is judged is "expert" opinion. Panels of experts (such as those in studies with the TPAI) would establish scores which in their view represented minimal criteria for entry level performance in the teaching profession. This model is less "statistically" sophisticated than the probabilistic model described above, but it has certain advantages in terms of being easy to implement, apparently on solid legal ground, and better understood by the general public. Major problems arise in contrasting "desired" with "actual" performance levels. If performance levels are set too low, all beginning teachers might automatically pass, thus negating the need for the assessment scheme. Similarly, if performance standards are set too high, large percentages of applicants might fail, placing a heavy burden for staff development and inservice training on the State and local school systems, and raising questions about the quality of higher education institutions in meeting current performance "expectations" through their education programs. A combination of "empirical" and judgemental models for such decisions seems needed.

Legal Issues

The legal issues surrounding the implementation of performance-based certification (PBC) models have their historical basis in Guidelines for fair employment tests and procedures established by the Equal Employment Opportunity Commission (EEOC) as part of Title VII of the Civil Rights Act of 1964. Since 1964, legal, social policy, and measurement issues have pervaded the competency-based education (CBE) and PBC concepts no matter to whom they are applied. No attempt will be made here to review the many court cases derived from the EEOC guidelines. As regards the TPAI, this has been done elsewhere (Johnson, Adams, Miller, Ellett and Capie, 1978). However, issues will be briefly summarized as they have emerged since 1967 (Griggs vs. Duke Power).

Two basic perspectives pervade legal issues surrounding CBE and PBC and past decisions rendered by the courts.

Perspective I: Who says we should have CBE and PBC? Most attempts by states to implement CBE models, whether for teachers, administrators, or children, have their legal basis in state constitutional provisions installed by legislatures as a means of implementing greater educational accountability at all levels.

Perspective II: Who says we should not have CBE and PBC? Most challenges to the CBE and PBC model have come from court decisions rendered against such systems because they are discriminatory, culturally biased, or stigmatizing on the basis of race, social class, sex, age, etc., with the burden of proof on those implementing such systems.

If one were to review the variety of court cases relevant to the CBE movement, especially those involving application of tests or assessment systems for employee selection, certification and licensing, several aspects of the CBE movement have raised important issues. Each of these issues can be the basis for legal challenge. Some of the key issues are summarized below.

Selection of the Competencies

1. Was selection arbitrary?
2. Have competencies been "taught" during professional preparation of the person being assessed?
3. Are the competencies generic and applicable to all persons concerned, e.g., elementary and secondary teachers, teachers in various subject matter areas.

Competency Measuring Devices

1. Were they properly constructed by qualified professionals?
2. Are items on which the person is assessed professionally endorsed?
3. Are measures valid in the sense that they assess job-related content and skills?

4. Are the criteria for validation themselves valid and reliable?

5. Who selected the validation criteria and why?

6. Was an attempt made to have the competency assessment device come up to APA/AERA standards?

Time Sequence of Assessment

1. When will the competency assessment instrument be given?

2. How many times will it be given?

Opportunities for Remediation of Person Assessed

1. Have opportunities for remediation activities for those undergoing and failing an assessment been provided?

2. Do the remediation activities have a rational relationship to both test performance and job-related skills?

3. Are multiple opportunities to "take the test" provided?

Cut-Off Scores

1. How were cut-off scores or competency standards set?

2. Were standards established on an empirical or on an arbitrary bases?

3. Were standards established free of socio-political, fiscal, and other bases?

4. Are standards non-discriminatory?

Due Process Considerations

1. Has a right to a hearing been provided before denial of certification or licensing?

2. Was the right to such hearing guaranteed?

3. Is a failure to be certified free of social stigmatization for the person tested?

4. Are there any adverse impacts on individuals as a result of not passing?

Each of the legal issues raised above in the form of questions has implications for those developing competency tests, exams, and other assessment systems. Most are inextricably interrelated to measurement processes used in instrument development and field testing. Those interested in developing systems to be used for certification like the TPAI would be well advised to plan research and test development activities after first having familiarized themselves with important court decisions. The R & D model is obviously one of making empirical evidence support legal opinion. Appendix D provides some general recommendations for developing and using performance evaluation measures in the educational milieu adapted from Holley and Feild (1977). Those attempting the development of assessment instruments like the TPAI would be well-advised to design developmental processes and research activities in full view of legal requirements and recommendations.

Appendix D

Recommendations for Developing and Using Performance Evaluation Systems in the Educational Milieu which could help bring them into Compliance with the Law[1]

1. The performance evaluation method should be shown to be job-related through content and/or empirical validation procedures.
2. The content of a performance evaluation method should be developed from a thorough job analysis.
3. Individuals evaluating job performance should frequently observe employees at work.
4. Where possible, evaluations should be based on observable job behaviors.
5. Evaluations should be administered and scored under standardized conditions.
6. Evaluations should not be discriminatory in intent, application, or results.
7. The language, including directions for use, on evaluation forms should be precise and uniform.
8. Evaluators should be trained in how to use the evaluation instruments.
9. Several evaluators should be used, and their evaluations should be conducted independently.
10. Evaluations should be supported by objective evidence of performance results.
11. In selecting factors to be used in performance evaluation or designing evaluation instruments, inputs should be solicited from various groups, for example, faculty members and administrators.
12. Performance evaluation must be conducted before any personnel decisions on which it is based should be made.
13. Criteria and procedures to be used in the evaluations should be communicated to the persons being evaluated.
14. Teachers and faculty members should be informed of the results of their performance evaluation.
15. School systems should develop policies pertaining to the use of performance evaluation, procedures for administration, rules governing decisions, etc., and these should be communicated to the teachers and faculty members.

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[1] Adapted from William H. Holley and Hubert S. Feild, "The Law and Performance Evaluation in Education: A Review of Court Cases and Implications for Use," Journal of Law and Education 6 (October 1977): 429.

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